



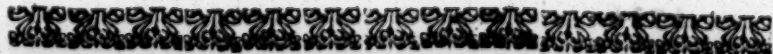
Criticon Februm :

OR, A

Critical E S S A Y

ON,

F E V E R S.



A

Librum, cui Titulus CRITICON
FEBRIUM, Dignum Cense-
mus qui Imprimatur.

Johannes Bateman, *Præses.*

Sir Hans Sloane *Bar^o*

Guil. Gibbons,

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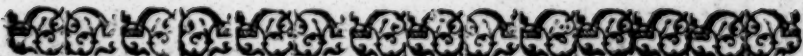
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Datum in Comitiiis

Censoriis 4^{to}.

Mensis Maij,

1716.



76e

Criticon Februm:

OR, A
Critical ESSAY
ON
FEVERS;

WITH THE
DIAGNOSTICKS and METHODS
of CURE, in all the different
Species of them.

To which is prefix'd

A Large INTRODUCTION concerning
the USE and ABUSE of *Mathematicks* in
PHYSICK, and the BASIS on which *Indi-*
cations are founded: Where also the *Euodia*
Medicorum is annex'd.

7

By EDWARD STROTHER, M. D.
A. Coll. *Christ. Cantab.* & Coll. *Med. Lond.* Reg.

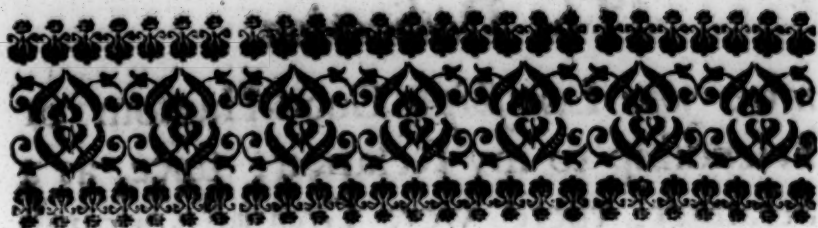
L O N D O N:

Printed for CHARLES RIVINGTON, at
the Bible and Crown against the North-Door of
St. Paul's, in St. Paul's Church-Yard. 1716.

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4 22



TO HIS EXCELLENCY

Don Isidro Casado
Of *Azevedo* and *Rosales*,

Marquis de *Monteleon*, Viscount
of *Alcazar Real*, one of His
Most Catholick Majesty's Su-
preme Council of the *Indies*,
Gentleman of the Bed-
Chamber, and his Pleni-
potentiary at *London*.

May it please Your EXCELLENCY !



THE Honour I have of be-
ing Ally'd to Sir *Francis*
Arther of *Madrid*, ha-
ving readily procur'd me
your Excellency's Favour,
I know not whether I am most to ad-

The Dedication.

mire *your Lordship's* Good-Humour or Friendship to my Relation; since, as a Stranger, there were Grounds enough to have deferr'd complying to any Request till farther Inspection.

To give any *Encomium* upon your Excellency's good Parts, would be somewhat extraordinary indeed, when I consider that YOU are sent hither as *Plenipotentiary* from the Court of His Most Catholick Majesty, where Wisdom and Politeness are distinguishing Characters that August Assembly was always allow'd to inherit; and that YOU are to transact the Affairs of that wise Nation, with the most sharp-sighted Court in the World. Therefore I shall only subscribe my self,

Your EXCELLENCY'S

Most Oblig'd,

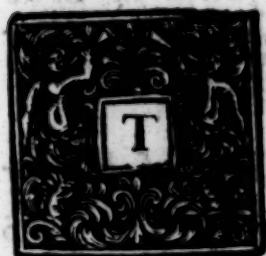
Most Obedient,

and Most Humble Servant,

Edward Strother.



THE PREFACE.



THE TREATISE I now venture to Publish, was not intended for the Press, when I first Wrote it; tho' I shall not mention the Reasons that induc'd me so to do. If I advance Facts, and give Reasons for my Procedure; if neither the Undertaker nor Publick lose their Pains, or think their Monies ill spent; that will be a sufficient Recompence for my Endeavours. If the World suffer not by me, I may, if Leisure allow, give them farther Proofs of my Well-wishes.

The Book is swell'd far beyond what I at first design'd; for I was not aware of many Circumstances which occur'd, when I review'd my Papers: But I hope the Perusers will find their Account

The PREFACE.

*Account in what I advance, having endeavour-
ed to say as little on every Paragraph as the
Nature of the Subject would allow. I did not
think it necessary to expatiate upon the usual,
and, I think, useless Divisions of Fevers; in
which much Time, I fear, has been spent by
many, to little Purpose. The Task has been
undertaken by many Learned Pens, and many
more have fallen short in their Aims; the
former have eterniz'd their Names, and ob-
liged their Posterity with lasting Monuments,
on which are engraven the Methods to be tru-
ly serviceable to Mankind; and the latter are
not unworthy Thanks for their kind Endeavours,
in communicating their Thoughts for the Pub-
lick Good, altho' they have not wrote so
learnedly; for tho' they have fail'd in Style
and Thought, if they have spoke Facts, their
Writings deserve a grateful Return.*

*However, I am sure I have built the following
Tract entirely upon many Years Observation;
and they who will censure, may go Scot-free;
for I am not at leisure to return Answers to
ungenerous Criticks, nor so obstinate as to persist
in an Error, when I am once appriz'd of it.*

*The Language was the Choice of the Under-
taker, not my own; and yet, I believe, 'twill
fail of being serviceable to any who have not
some competent Knowledge in the Materia Me-
dica; and this I had in View, to prevent too
much meddling in so grand a Concern, as is the
Jewel*

The PREFACE.

Jewel of Life: And as the Circumstances of too many will not allow of a regular Attendance from the Beginning; so some Measures chalk'd out for the Use of those Gentlemen who are pleas'd to favour me with a Call in to their Patients Assistance, when the Disease is much advanc'd, will give Sanction to the Plainness of the Style. If it contain any Errata beyond the Literal, nothing can atone for it.

As far as I have had Opportunity to observe, more than the Third part of Mankind fall by this dismal Distemper; and the little Leisure there is to amend any Mistakes, committed at the Commencement of a Fever, in all the subsequent Stadia, ought to make the Persons that Practise seriously to consider what sort of Evacuation ought first to be attempted, and how far the Strengths of the Patient will allow them to be continued or reiterated: For to speak justly, on these depend the whole Art of Curing Fevers; and the Neglect or Preposterous Use of them, have convinc'd too many of the Truth of what I advance, since Alteratives produce their Effects but slowly.

I shall add no farther, than to tell you, that I have avoided to advance any Notion which did not square with the Practice; nor any Practice, but what has all the necessary Distinctions I could think of use to assist the Judgments of those whom Custom has prevailed to call first,
in

The PREFACE.

in order to prepare a Patient; which is sufficient to denominate this Undertaking generous.

The Introduction was not intended for the Press so soon, but that the Book was too small of it self: What Faults may be found in it, I hope will be excus'd, it being only designed to sketch out a farther Design I have in publishing a large Collection of a System of Practice, modell'd in an uncommon, but useful Order. I must here return publick Thanks to the Honour'd Sir Hans Sloane Bart. M. D. for his having comply'd to revise my Papers so readily, as also for his farther unparallel'd Civility in ushering 'em into the College to have 'em Approv'd by that Learned Body; so that not content to let me have his own Private Judgment, he was willing to favour me with it, as in a Publick Capacity.



THE



T H E
C O N T E N T S,
Of the INTRODUCTION.

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ERRATA.

PAge 10. line 29. read *their Alvei*, p. 25. l. 28. after *Quantity*, r. *says Wainwright*; p. 34. l. 11. a Parenthesis before (*but*, and closes at l. 13. after the word *in*;) p. *ibid.* l. 15. after *only*, r. (*supposing a Pressure, contrary to Sir Isaac Newton*;) p. 37. l. 32. r. *arises at last a Crispation*; p. 50. l. 25. r. *Limitus*; p. 57. l. 28. include the word *in*; p. 58. l. 23. read *burn, and do*; p. 62. l. 17. for *and* r. *besides*; p. 70. l. 21. r. *δδρέως agens*; p. 123. l. 15. after *Asthmatick*, r. *tho*; p. 188. l. 21. r. *M* instead of *V*; l. 24. *M* for *V*; p. 206. l. 27. r. *Simplicity*.

1

T H E
INTRODUCTION.

S E C T. I.

*Of the Usefulness of MATHEMATICKS, to
Human Affairs.*



WERE in vain to make Excursions, to endeavour to perswade the World to apply themselves to so useful a Study, since there is hardly any of the vilest of Trades but draw some Rules from this Noble Science; Porters use their Cranes; Masons their Levers, Pulleys, Levels, and Rules; Carpenters their Measures; Ship-builders build their Ships in such a Form as is found to push its way with least Resistance. In fine, nothing falls under the Notion of Quantity, but what lies under the Direction of this Science: So that they, whose Education is liberal, ought to be fraught with so extensive a Knowledge, in order to make them useful to the State, their Families, and their Neighbours. However, I am not for perswading Gentlemen to apply themselves to this laborious Study, so as to fall in Love with it; and, by too intense an Application, to turn Hermits, and
B tender

render themselves unfit for common Conversation: Leave this to the Professors of it; but learn from them what is useful to your own Business, and leave the Remainder to themselves. And whenever you have learn'd what you would be Master of, remember not to be so proud of it, as to endeavour to extend your Part of the Knowledge to what it concerns not, or draw Conclusions pernicious to Mankind from thence. If this were not too common a Crime, I should be sorry to mention it: But having undertaken to convince the World that this is too frequently done in a Matter so serious as Life and Death, I leave it to its proper Place to be discussed.

I would therefore have the *Merchant* perfect in his Numbers, and all the Parts of Arithmetick belonging to his Trade; for without it he must necessarily starve himself and Family; the *Navigator*, without his Trigonometry, is a sorry Friend to his Merchant; the *Essayer*, without his Specifick Gravity, or the common Method of Essaying, is an Enemy to the State; the *General Officer* fails in one of the useful Parts of his Duty, without the Art of Embattelling; the *Gunner*, if he is ignorant of the Elevation of his Piece, or does not know that Flanking is to a direct Shot, as 3 to 1, will not perform the Duty that is justly required of him from his General, nay, his Country. What does a *Fortificator* without the Knowledge of his Angles of Defence, but dupe his Prince, and expose his Subjects to Ruin and Destruction? What Value is the *Miner* of to his Master, who neither knows the Laws of Hydrostaticks as to Levelling, nor the Knowledge of Powers as to Lifting? And therefore no Wonder so many are chous'd out of their Estates. What Acres of Ground do the poor Tenants pay for, they never enjoy, whilst a *Common Measurer* encreases the Degrees in his Theodolite, to flatter his
Gentleman

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Gentleman into a Belief that he enjoys double the Number of Acres he really does, and to engross a few Pence into his own Pocket? How useful are the Arts of making and framing the several Sorts of *Lens's*, to discover the Figures of Bodies, for the Short-sighted, for the Old, for the Sailor, and for many other Uses? Should I expatiate more upon this Affair, a Section would swell into Volumes; which is far from my present Purpose, having no farther Design in this Section than to hint at the Use of the Mathematicks in General; which I believe I have sufficiently done, when I have let you see how many Affairs of great Moment 'tis absolutely necessary to.

S E C T. II.

Of the Use of the Mathematicks, and Experimental Philosophy, in the Knowledge of our Human Bodies; and of some Data from the several Branches of it, drawn into Use.

I AM not of so harsh a Disposition, as not to accept of several *Data* from the Mathematicians, which, it is to be own'd, are prettily enough adapted to the Purposes they demonstrate them for: But I am of Opinion, that it is an affected Shew of Learning to demonstrate these Truths in such a Manner, as that a Book of Physick, save its Title, would now appear rather a Point of Mathematicks discussed, than any useful Discovery in the Art of Healing; I believe I need not be at the Pains to convince the Peruser of our daily Treatises in use of late, where they will find Instances in abundance; where, after Sir *Isaac Newton*, Dr. *Halley*, and the *Philosophical Transactions* are rised, they gravely

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recite a few Remnants from some Ancient, and so draw their Conclusions to a dangerous Purpose; of which more anon. I shall recite some of those *Data*, which need not be demonstrated, but supposed: And whosoever desires them proved in a Mathematical Manner, would do well to consult the Authors they are borrow'd from, at their own leisure Hours.

In every Fluid there is a Gravitation and a lateral Pressure, which is perpendicular to the Tangent of the Circle.

Hence 'tis concluded, that the Blood in our Arteries and Veins presses downwards and sidewise; or, as the learned *Bellini* has it, the Blood's Motion is Longitudinal and Latitudinal. From this lateral Pressure it happens that our Vessels are Circular; and as the Vessels are of that Form, all its Ramifications are of a similar Shape; and as the Glands are but Complications or Contortions of Arteries, they are of the same Shape, and also their Orifices.

The Pressure of the Incumbent Fluid upon a Solid, is in Proportion to the Altitude; or, as Dr. Wallis will have it, The Moments of a Fluid pressing upon a Fund, are a Rectangle under the Quantities of Matter and the pressive Velocity; which is Sir Isaac Newton's Law of Motion, That Moments are equal to a Rectangle under the Celerity and Quantity of Matter.

Hence may it be concluded, that the Blood's producing any Effects on the Solids, such as the opening Obstructions in the Nerves, or elsewhere, must be an Argument of its Quantities being increased, or its *Pondus*; or that it is stock'd with volatile Salts: By either of which the Obstruction is dug down, and the Nerves freed from their *Infarctus*. Hence also may be drawn the Reason of
Hæmorrhages,

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Hæmorrhages, which, by the Quantity of Blood, either endanger a Rupture ; or by its swift and nimble Circulation, does equally, by its Intumescence or Percussion, or some other Effect of its swift Motion, rend and tear the slender Orifices of the Vessels, and so occasions a Flux, which bears a Proportion to the Degree of its Motion; or the greater the Quantity is, or the more swiftly the Blood moves, the more dangerous are the Symptoms produc'd. 'Tis thus that Bodies under Water are considerably more press'd on than in the Air, because Water is to Air as 800 to 1; and the Sea-water is heavier than common Water. Hence 'tis observ'd, that the Cork will be press'd into the Bottle, when 'tis plac'd deep into the Sea.

Fluids running from a larger Syphon into a less, the Liquids run with a greater Velocity in the less Tube : But if the total Sum of the Orifices of less Tubes be more numerous than the Area of the transverse Sections of the greater, then the Fluids run slower in the less Tubes.

Hence it is concluded, that if all the Orifices of the Capillary Arteries were (put together) less than the *Aorta*, the Blood would run faster in them than in the *Aorta*; the contrary of which is demonstrably true, and therefore the Blood circulates slower in the Capillaries than in the *Aorta*: And hence so many Stagnations in the Evanescent or Capillary Arteries; which also happens from the Cone growing narrower towards the Vertex of it, or, in other Terms, from the Arteries Straitness at its *Anastomosis*.

Fluids cannot move on, unless the impelling Force conquer the Resistances.

Hence if the Force of the Heart's Motion were not superior to all Impediments in the Arteries, and elsewhere, the Blood would stagnate, and run

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nò more. And *Borelli* has, in his *Æconomia Animalis*, demonstrated that the Power of the Heart is to that Resistance, but as 1 to 45, or 3000 to 135000: and that were it not for some other Power, the Circulation must cease of course; which auxiliary Impulse he places in Percussion, or the Jerk and Shock it throws off its Load by; and so we again return to the Law, that the Moment is a Rectangle under the Quantity of Matter and the Celerity.

Thus when we labour under a Penury of Spirits in a Fever, the Crispations of the Fibres being augmented by the violent Heat of the Blood, will occasion the Impediment to Motion to be more forcible; and the Spirits flowing sparingly through the Channels of the Nerves, will lessen the Force of the Percussion; so that there must in this Case inevitably follow a full Stop to the Circulation, and the Thread of Life must be cut off; if then these Powers are not equally proportion'd, many and dreadful are the Consequences of the Destruction of this *Æquilibrium*.

All Fluids flow through their Channels with only their Excess of Velocity above the Resistances.

So that let us suppose a Fluid to be impell'd with a Force equal to 47, and that the Resistances are equal to 35, then the Fluid only moves on with a Velocity equal to 12.

Hence in Cachexies, and other Disorders proceeding from the Languid and Testudineous Motion of the Blood, the Alteratives must be given to such a Proportion, as to augment the Motion, not only till it comes to an exact *Æquilibrium*, but till we make it arrive to that Excess of Velocity which the Nature of that Person, we have under our Care, has been known formerly to be accusom'd to, when he enjoy'd a perfect Health. The Knowledge of this is gathered by collateral Proofs, the Discus-
sion

The INTRODUCTION. 7

sion of which appertains not to our present Enquiry.

In all Fluids there is a Centre of Gravity, and Gravitation, viz.

1. The Center of Gravity is an imaginary *Axis* which is supposed to pass in a perpendicular Line to the Bottom of the containing Vessel.

So that whatever Posture we are under, the Particles of the Blood gravitate upon some Part of the Vessel: *If our Posture is Erect*, than the Gravitation is on the Orifices of the lower Vessels: *If Horizontal*, each Column gravitates on the Sides of the Vessels. Hence in *Hæmorrhages of the Uterus* an erect Posture contributes extremely to promote it; but an horizontal one helps to allay it: So in *Hæmorrhages of the Nose*, an erect Posture is most convenient.

The Altitudes of Projectiles are to each other in a duplicate Ratio of their Velocities.

Suppose then that the Heart of any Person throws out its Contents to the Head, with a Velocity or Force equal to 2, and that if another propels its Fluids with a Force equal to 3: I then conclude, that if the Blood of the one wou'd be thrown 4 Inches, that of the other wou'd be thrown 9 Inches forward. This I look upon to give Light to a Physician, in Bleeding of his Patients, in the Knowledge of the Force of the Heart; for where the Blood of one Person will flow to the Distance of one Yard and half, or 54 Inches, from the Arm into the Dish, the other flows only to the Distance of half a Yard and half-quarter, or 22 Inches $\frac{1}{4}$. From hence also may be gather'd the imminent Danger Patients are under in Ardent Fevers; where the Force the Blood is thrown withal up to the Head, violently impacts it into the Cortical; nay, and I have (in

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Dissections of such as died under this kind) found it deeply thrust into the callous Substance, and in pretty large Quantity; from whence incurable Phrenzies often ensue. From this Head I would advise some unwary Practitioners not to tread a Road, too common now in Fevers, of giving testaceous Medicines, nay, much warmer Cordials, and fleaing their Patients with Numbers of Blisters; when, if they consulted Reason, and not Prejudice, they would easily view what Shoals they precipitated to the Grave by this Butchery.

Cylinders are to each other in a Ratio compounded of their Bases and Altitudes; that is, if the *Base* of one Cylinder be 9, and another 6; and the *Altitude* of one 4, and the other 2; then are they to each other, as $(4 \times 9 =) 36$ to $(6 \times 2 =) 12$.

Hence are the Quantities of Liquors circulating in our Vessels measur'd: Hence are the Quantities of Secretions proportion'd; for that it is easy (admitting there be no other Adventitious Cause, which I shall mention immediately) to believe that a greater Orifice will separate a greater Quantity, and even the most coherent Sort of Fluid in any given Time: For indeed I suppose the Celerity of the Blood's Motion to be the same; because when that is augmented, it alters the Question extremely. Some of our Notionalists will have it, that a greater Celerity in the Motion of the Blood, occasions a larger Quantity of secreted Fluids: But others, who argue from stern and patient Enquiry, find that the swifter the Motion of the Blood is, the less it separates. Who are best Judges in this Case, will appear from this; that one alledges Fact, the other begs the Question. We may then suppose the Case to stand thus; As we see that the Bladder, over-distended with Urine, cannot perform its ordinary Duty of Expulsion by the Contraction of its Fibres; so may
we

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we say of such Arteries as we know are over-loaded with a rarefied Quantity of Contents, that they in like manner cannot contract themselves to protrude their Contents thro' the ordinary Emissaries, and consequently do then separate less. This will be no Surprize to any who considers, that whilst the Bladder retains its Elasticity and contractive Power, by this it contracts its Coats, and extrudes its Contents with Ease, because here the Elasticity is superior to the Resistances; but whenever the Resistances conquer this elastick Power of the Muscular Coat, then there necessarily follows a Suspension of that Action. Now in an *Ischury* (from this Cause) the lateral Pressure is such, that the Sides of the Bladder cannot act, because the *Liquidum Nervorum* and Arterial Blood, from whence this Power of Motion is derived, cannot enter into the Bladder. And in such a Case the Pressure on the Sphincter is only equal to a Column of the Size of its Orifice, all the rest of the Fluid having now a different Center of Gravity. But because this one Example may not be sufficient to convince a prejudic'd Person, I shall mention another Experiment of injecting Fluids into a Syphon, which we suppose is bor'd in several Places, to adequate the Case: If Liquids are thrown with a violent Force into this Tube, very little or none will exude through the small Emissaries, but 'tis all of it hurried along the larger and direct Orifice: For that longitudinal Pressure is much superior to the latitudinal one, (the only two Directions we place in Fluids.) But a Practitioner will be more convinc'd by Experiments drawn from Practice, which for his Satisfaction I shall stoop to do, and then draw this Paragraph to a Conclusion. Don't we see it very common in dying Persons, where the Motion of the Blood is very slow, that the Lungs separate a great Quantity of *Mucus* into the *Bronchie*, which, so long as the
Spirits

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Spirits are so plentiful as to contract the Parts, is thrown out; but whenever they fail, then it choaks them? Is it not a common Experiment to tie one of the Jugulars of a Dog, and we find immediately that his *Saliva* is spued from the Salival Glands more plentifully? The same Experiment below the Heart is found to fill the Cavities of the Body with a Heap of *Serum*, which Dr. *Lower* looks on as one Occasion of a Dropsy. The same Mechanism holds also true in Convulsions about the Head, where the Motion of the Blood through the Arteries is impeded by the Diminution of their Diameters: And hence, as a Sequel of this in these Parts, I have seen an Inundation with *Serum* in the Ventracles, which indeed may also Evene from the Return of it impeded through the *Infundibulum*. Catarrhs are often a Consequence of a slow Motion of the *Lympha*, or its Return hinder'd through the Lymphaticks. In fine, daily Experience convinces the Gentlemen of the Faculty, who have had Opportunity to observe Nature's Laws, that after we have been spent with profuse Evacuations of Blood, we are often infested with dangerous *Diarrhæa's*, which are only an Effect of its loose Texture and its slow Motion, as well as of its Spirits, so that it drops through its Glands, where its Center of Gravity is directed downwards.

Canals that are impervious from any Extraneous Body, must, by straitening its Alveus, be made to pass their Fluids: If they are impervious by their Rapidity, we must use Sluices to hinder its rapid Course: If they are impervious for want of Fluids, Sluices also help this Fault.

How far this Maxim of Hydrostaticks can be adapted to human Bodies, I cannot certainly affirm; however, I shall deliver my Sentiments upon a Point or two which it seems to account for, without offering

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offering to pronounce too dogmatically, as is the Custom. The Antients, in Fevers of the malignant kind, have often advis'd *Bole*, *Terra sigillata*, and some such other styptick Drugs, in order, as they supposed, to contrast with the malignant Particles that had empoison'd the Blood and Juices. I observe these very Medicines mentioned by later Practitioners in their Books of Practice; and the Reasons they give for their Acting, is, as they are pleas'd to term it, *To conglutinate the Crasis of the Blood*; whose Compages is here supposed to be too loose; and from hence it is supposed to separate so easily into the *Cutis*, those Blotches, or whatever Eruption is made from the Blood. I said, I observ'd it had been mentioned in their Books; but if you consult their Files, you will rarely, if at all, find any Drug of that Nature blended with their other Medicines; which to me is an Argument, that when they write, they think themselves oblig'd to give Reasons to the Publick, they themselves are not at all satisfied with. Give me Leave to follow their Examples, in the Account I am going to give of the Virtues of these Stypticks, which yet I would gladly they should be persuasive, and introduce again what the Antients had doubtless observ'd to be useful. Shall we look upon the Retention of some Parcels of the *Perspirabile*, (which a Learned Author says, is unequal in its Texture, and in *Malignants* calls it *viscid*) to be this extraneous Body? Let it for once be granted me; I say then, That such a *viscid* should be attenuated to a pitch fit for a critical Expulsion, it is necessary the Blood, or Blood-Vessels should receive some Change in their Texture or Oscillation, or some such probable way, in order to the bringing this about. I cannot see a more likely Method to compass this Design, than by an easy Supposition; and this I reckon to be done by changing the Diameters of the cylindrical

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cal Cones and Syphons into much narrower Limits, which we all know to be a Vertue ascrib'd to Astringents; for by this very Mechanism, it will fall out that the Elastick Force of the Arteries will be encreas'd in a *Ratio* to a Diminution of the Diameters of these Cylinders; and whereas Tubes of a minute Diameter circulate their Fluids with a much greater Celerity than those of larger Diameters, it may thus be reasonably supposed that the Elasticity of these Fibres being augmented, but their Diameters diminished, the Fluids embrac'd between Fibres that have receiv'd such a double Change, will be more strongly compress'd, comminuted and agitated, as well as run on in a more continued Stream, and more nimbly than before, which to me seems to be all that is requisite to hinder the seceding of such Eruptions, and to attenuate this Viscidity: As to what concerns the other Medicines commonly given in such Fevers, 'tis a Disquisition appertaining to another Head.

I remember to have heard from a Lithotomist somewhat which then to me appear'd very paradoxical, That to make a Stone pass thro' the Ureters, he look'd upon Claret (which all of us know to be a Styptick) to be the best Diuretick, and what would make it pass the soonest. This Mechanism you see holds in cleansing Rivers of their Sand and other extraneous Bodies; whether it holds true in the Case of the Stone in the Kidneys, I shall not now take upon me to determine, but leave it to the Enquiry of such who have Opportunity to observe.

Action and Re-action are equal.

This grand Maxim holds true in many Instances: Without this *Æquilibrium* the Blood would stagnate; for unless the restitutive Power of the Arteries

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teries in their *Systole* were equal to their Dilatability in their *Diaſtole*, the Fluids contain'd would be preſs'd into 'em ſo copiouſly, that the Blood would ſtop at the Section of Reſiſtance; and from thence at the neareſt Section to that, up or down, to the very Heart, and ſo occaſion inevitable Death; which I take to be the Caſe in common Apoplexies, where the Laxity of the Fibres firſt ſuffers the Blood to lodge in the yielding Part, and from thence enſues gradually a Stop, till it can, for want of free Paſſage, run no longer. By this we find the *Density of the Air to be reciprocal to its Compreſſion*; ſo that whiſt the Compreſſion encreaſes, the Density of the Air equally encreaſes; and, *vice verſa*, whiſt the Compreſſion is taken off, the Air is leſs denſe. Hence it might be inferr'd, that if the Moon acted on the Sea by Attraction or Gravitation, our Air would ſuffer ſome Change in its Action, and the Mercury would either riſe or fall at ſuch Times. This I ſhall have occaſion to handle below more amply; but this ſeems to be by Mr. Boyle's *Cosmical Qualities*. Hence alſo *the Air's Elasticity is reciprocal to its Extenſion*; ſo that if we live in a lower Region, the Column of Air that preſſes upon us, is much heavier than when we live in mountainous Places; ſo that they whoſe Lungs are ruptur'd, and who ſpit Blood, live uneaſy where the Air preſſes the Veſſels too much, and thus keeps the Fraction always open, but are help'd by Removal into an Air leſs compreſs'd, (avoiding any Extreme on this ſide too:) And they who are Aſthmatick, and want to have the Lungs more expanded, ought to live in a dry Region, and ſomewhat inclinable to Cold, where the Air will be more compreſs'd, and their Breasts will be more opened. Hence the common Experiment of a Bladder half inflated, removed to a Mountain, it expands and ſwells. Hence 'tis that *the internal Air* (contain'd, I mean, in any Fluid)

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Fluid) *expands or contracts reciprocally, as the incumbent Atmosphere expands or contracts itself*: Whence it is that Bottles in hot Weather will crack; nay, when the Air's drawn off, they will crack, tho' placed under the Water: From this Quality of the Air, it happens that our Blood in hot Weather occupies a greater Space, and occasions in such a Season Fits of an Asthma, Rheumatick Pains, Febrile Disorders, and such-like: Whence in cold Weather, when the Air is much contracted and heavier, the Blood almost loses its Elasticity, and Coagulations of dangerous Consequence ensue. But having hinted at this Principle, I shall add no farther Remarks.

Attraction of Bodies, is as the Squares of their Distances.

Hence at a greater Distance there is less of this Power exercis'd; at a less Distance it is greater: that is, if I suppose two Parcels of Salts; one at the Distance of 3 Inches from its fellow; another at the Distance of 5 Inches; then as 9 is to 25, so is the Attractive Force of one to the other.

Almighty God has plac'd a *Magnetism* in the World, and we find it, in some measure, plain on several Heads: Hence, when such attractive Bodies are segregated at a tolerable Distance, they lose the Force of Attraction; but at small Distances they coalesce: So Salt of Tartar flows by the Attraction of Water, which is not easily call'd off: But so much is said of this in Mathematical Authors, and more especially in Sir Isaac Newton's *Quere's*, at the End of his *Opticks*, that little farther need be spoke of it here. As to the Original Cause of it, he supposes to be some Impulse, or perhaps some unknown Way. If then any Diseases are occasioned by the Juxta-position of such Bodies as will unite into some *Tertium quid*, and so bring on various

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rious Symptoms, the easiest Method with such Cohasions in Chymical Experiments, is, by Dilution; and this is best done by the Liquor heated, the Motion of which dissociates, whilst the Quantity enlarges the Distance of the attracting Salts: Hence it may not be amiss to observe a Caution *Baglivi* (p. m. 474. *de Morborum & Naturæ analogismo*) brings upon the Case of Rheumatick Pains; after due Evacuations by Bleeding, a cool Regimen of Barley and Oatmeal-waters and Emulsions: He adds in the Declension; *ubi acuties tamen aliqua morbi nec non acrimonia inflammatoria adhuc viget; tunc sumo flavedinem subtilem corticis limonum in frustula rejectum, eumque bullio leniter cum aquâ fontis; & hujusmodi aquæ citratæ calidæ præbeo bibendos agro tot cyathos quot velit, dummodo possit stomachus regere: Hac enim copiosâ potione refræno salium, acrimoniam, vires restauro & FLUXILES REDDO HUMORES, ut in suis filtris facilius citiusque repurgentur. Hanc potionem aquæ citratæ frequenter præscribo — ut aliquot cyathos ejusdem valde calidæ quotidie sorbeant.* Hence *Keil*, in his *Book of Secretions*, observes, “That Dilution
“diminishes the Attraction of the Salts in Rheu-
“matisms, and hinders their Violence in acting
“and producing their racking Effects, when they
“approach too near to each other.

Thus it is in Hectical People, where the Acrimony and Salts in the Blood are so copious, and approach each other so near, that they ravage and tear the Fibres, or at least irritate 'em so violently, that the Blood is hurried about one third faster than in a natural Circulation, and consequently a vaster Expence of Spirits are required to propel it, in a Ratio to the Excess of *Systole's* in this præternatural Circle to the natural one; for I think it will not be denied me, that our daily Actions are the Standard of the Expence of Spirits; so that
their

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their Exhaustion bears a Proportion to the Quantity of Motion, and that Motion to the Numbers of Contractions; whoever then can know how to hinder or separate the Contact of these Salts, hinders Irritation and their other Effects, that we see necessarily proceed from thence: Hence also here Dilution, in these Cases, is necessary in an absolute Sense. As to the other Correctives commonly given in these Cases, I don't design here to account for 'em, and therefore I shall proceed to another Point.

Motion in an inclin'd Plain, is doubly slower than in a perpendicular Line. The Celerity of Motion in an inclin'd Plain, is, to the Celerity of Motion in an inclin'd Plain of the same Altitude in a Ratio, reciprocal to that of their Lines: And a Body falling from an inclin'd Plain, the Velocity is equal, if the Descent be so. And an inclin'd Plain given, 'tis easily found how far it's Body would fall in the same Space from a perpendicular of the same Altitude.

Abstracting from Resistances, or allowing for 'em, these Lemma's may give us some Light to know the Quantity of the Circulation of the Blood in perpendicular Lines, or inclin'd Plains, by its own proper Weight; so that the directer the Line is, the stronger must be the Protrusion; and therefore where the Fibres are made laxer than naturally, by any aqueous, oily, or such soft and unctuous Drugs, the Fibres, in proportion, turn less direct, and the Circulation grows slower in the Vessels; and, till the Exhalation of these Particles by discutient or absorbing Medicines, the Blood must continue to move slower on, and we be subject to all the Consequences that necessarily attend such a Change.

Heavier Bodies thrust lighter ones upwards: The Protrusion of Bodies less heavy, is so much the more
vehe-

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vehement, as the Dissimilitude of their Weights; (or the Protrudeus and Protrufum are in a Ratio of their Pondus.)

I fhall only add, that hence it is that the *Mucus* of the Noſe fwims at the Top of Water; and that Bodies only gravitate with their Exceſs above the protruded Body.

There is no Point of a viſible Object, from whence Rays don't reach to all Parts of the Iris, and all Parts of an Object are ſeen: And Rays that emerge from a Glaſs Sphere, the Focus of ſuch emerging Rays is at the Diſtance of three Semi-Diameters, and more.

From this it is concluded, that Spots and ſuch-like Black Figures that ſeem to float in the Eye, are not really in the Humours, for that the *Focus* of the Representation of ſuch Gnats, would, if at all, not converge but at a great Diſtance beyond the *Retina*, and therefore cannot appear at the *Retina*, and therefore are not notic'd by the Eye: Hence it is concluded, that ſuch Specks are really ſome Obſtructions in the *Retina*, whence ſome Rays of the viſible Object that are receiv'd, are not perceiv'd. *Pitcairn* did us the Favour to advance this as a mighty Diſcovery he had made, which however was ſaid by *Galtruchius*, p. m. 269. ſpeaking from *Ariſtotle*, ſaying, *Sensibile poſitum ſupra ſenſum, non facit ſenſationem: Quare, ſays Galtruchius, quæ ſunt in oculo ab ipſo oculo non videntur.*
 — *Quia ſi propius objectum accedit ad oculum, vertex conĩ refracti projicitur ultra retinam.*

In a Cone, the greateſt Reſiſtance to Motion is at the Vertex..

Hence 'tis ſuppos'd that Obſtructions moſt reaſonably happen in the evaneſcent Arteries; this alſo was advanc'd from *Pitcairn*, but taken notice
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of long before by *Lindanus in Collegio supra Hartmannum*, p. 166. *de Mesenterij Inflammatione*, §. 2, & 3. who has these Words; *Obstructio est metuenda ubi ex majori in minus vas defertur*: And hence it is that Tumours generally happen at the *Terminus* of some of the small Arteries.

If the Blood be so vitiated, as that the Strengths be augmented or diminished, 'tis the same as if the Blood offended in Quantity.

Hence, if a Person labour under a Want of Strength, from the Blood's being vitiated by some preternatural Ferment; 'tis the same thing as if the Blood were diminish'd and drawn off. And again, suppose a Person labours under a Disease, where their Strengths are much augmented, as Madness, and such-like, from some Acrimony of the Blood, 'tis all one as if the Blood were augmented. So that suppose a Person has in the Vessels 20 Pounds of Blood, and his Strengths equvalate 5 Pounds, then if we consult Sir *Isaac's Law of Motion*, it will stand thus, $ac=m$, or 20 multiplied by 5 is equal to 100 *lb.* this Person can lift. If then a Person falls ill of Madness, and can lift up 140 *lb.* then the Moment of Strength in each Pound of Blood amounts to 7 *lb.* for 20 multiplied by 7 is 140: But if they labour under such a Languor, as that they can only lift a Weight of 80 *lb.* then 20 multiplied by 4 is equal to 80 *lb.*

Secondly, Suppose the Blood were augmented to 28 *lb.* and the Moment of Strength of each Pound were equal to 5 *lb.* then 28 multiplied by 5 is equal to 140; so that 20 multiplied by 7 is 140, and 28 by 5 is 140. Hence 'tis evident that 'tis the same thing, as to Strength, whether the Blood's Quantity be augmented, or it's Quality vitiated. Hence it may be inferr'd, that if Madness be occasioned by some Acrimony of the Blood, and the Strengths

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Strengths of that Person be considerably augmented, we may act as if the Person labour'd under a Plenitude, by drawing off such a Quantity, as will lessen the Strengths of the Patient to a certain Degree; and this we may the more boldly attempt, because 'tis agreeable to common Practice in such Cases: On the other hand, when the Strengths decay from some vitious Quality, it being the same thing as if so much Blood were lost, we may give Cordial Diet and Medicines to repair the Loss of Spirits and Strength: But as for the State of Humours, on which this Decay originally depends, 'tis the Business of another Part to correct.

The Heat in our Body is in a Ratio compounded of the Quantity of Blood, and its Celerity, And constituent Particles.

So that when we are under a Fever, and our Pulse is encreas'd in Numbers, our Blood is observ'd to mount the *Thermometer* up to *Sultry*; and this depends upon the Rarefaction and Attrition of the Particles amongst themselves. I am not now calling it into Question, whether some extraneous and active Particles don't give Rise to this Velocity; for nothing is mov'd but by some Agent: Hence, *vice versa*, 'tis argued, that in cold Fits of an Ague, the Celerity, and consequently the Attrition against the Sides of the Vessels, is much lessen'd; which some extraneous Salts occasion, by clogging and impeding the Motion of the Blood: And here we find that the *Dissipation of the Arteries is not reciprocal to the Resistance*, as *Bellini* somewhere expresses himself; for, in this Case, the Pulse grows weak and slow, as *Cole* has it, *p. 126. de Febr. Intermitt.* and therefore the *Systole* bears a reciprocal Proportion with the Influx of the Animal Spirits into the *Villi* of the Heart, which, in such a Condition as the whole Fluids are then under, are very scantily supplied.

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ply'd. This State of the Fever does not continue long, but is soon succeeded by its contrary, *Heat*; which, as the above-named *Bellini* has it, happens so soon as the *Pression*, and the natural Force of Fire to exert itself, conquers the Implication from the *Viscid*; or, that the Particles, by a repeated Circulation, are comminuted and divided into less *Globuli*, where the Salts begin to extricate themselves, and irritate the *Villi* of the whole Frame of the Heart and Arteries: And therefore to assist this Extrication the easier, and lessen the Cohætion, 'tis necessary to follow the Caution, once mention'd, in giving Liquors warm'd, to dilute, and strongly to destroy the Attraction: The more Haste we make in doing this, the better; for that in the cold Fits, there is Danger of their never surviving it, where the Cause of this Cohætion is strong and plentiful. The different Effects of Heat upon the Fibres of our Bodies, is somewhat remarkable; for a gentle Warmth relaxes 'em, whilst a strong one crisps and corrugates 'em; so that in any Disease, where there is a Tenseness of the Fibres, as *Baglivi* observes justly in Frenzies, Fomentations of warm Emollients to the *Hypocondria* relax and help to give some Revulsion to the Humours from the Head; for that by such a Procedure, the relax'd Fibres give an easier Inlet to the circulating Fluids, by so much as the Resistance to Motion is lessen'd; and thus the Blood that is not impacted, runs thither with more Ease, and the distant Part is reliev'd. 'Tis upon this Principle of Relaxation, that *Sylvius* c. 9. de *Morbis Infantum*, advises the Feet to be bath'd in warm Milk, to prevent the Small-Pox's breaking out in the Face: 'Tis upon this Head too we read in *Verheyen de Febribus*, p. 294. that Sir *Kenelm Digby* order'd a Young Woman to rub one side of the Face with Oil of Almonds, and by it prevented any Marks from the Small-Pox; for that the more acuminated
the

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the Small-Pox are, the less they are observed to mark; and the Resistance to Motion that Way being much lessened, the Propulsion *ad extra* bore a Proportion to the Emollition of the Fibres. This same Mechanism is observable in critical Tumours, where the Part affected is rubb'd with *Ol. Chamam. Lilior. Amygd. d. tum Lanâ succidâ iisdem oleis imbutâ*. Vid. Schmitz. p. 139.

We see then how the Excess of Heat crispates 'em, in Proportion to the Humidity exhal'd; so that in a violent Heat we see 'em change their Texture and Direction extremely, even to become incapable of passing their Fluids, and at last of holding their Contents in their Channels; so that how Inflammations and Erosions happen, is pretty well accounted for. On the other hand, a gentle Warmth is useful to keep the Vessels flexible, and cause 'em to yield upon the Impulse made upon 'em by the approaching Fluids; and thus the Circulation is continued by the elastick and restitutive Force, which is the natural Office of the Arteries, contracting themselves after they have gently yielded to the Force impell'd on them by the Heart.

All Qualities are to each other as the Density of their Radii: And This Density is reciprocally, as the Distance from the radiating Point; or, as the Squares of their Radii.

Supposing two Circles; whatever is within the less, is more intensely heated than the Body contained on the Surface of the larger, in a *duplicate Ratio* to their Radii; so that suppose the Surface of the lesser Circle have it's Radius at the Distance of four Inches from the Radiating Point or Center, and the larger have its Radius at the Distance of 6 Inches; then, I say, the Body on the larger is heated as 36 to 16, which here is more than double: This Principle holds good in all Qualities,

as Heat, Cold, Air, Light, Sound, Smells, nay, and Motion; so that even the Blood may safely be said to move on swiftness at the Center of its Motion, the Heart, than at the Extremity of the Arteries and Veins, where there is the utmost Distance from its Radiating Point: But this being an Affair so much within the reach of Common Sense, 'twould be an Obtrusion upon the Patience of the Reader to add more on this Head.

Effects are Aggregates or Rectangles under the Sum of their Causes.

Hence if we would account for any Effects produced in our Bodies, we must take a perfect View of *all the Causes* that can produce such *Phænomena*: I would gladly persuade Physicians particularly to be aware of the too narrow Views they commonly take in their Dissertations; for if we look into their *Hypotheses* they have settled, even in Practice, 'tis amazing to find Men of Sense amusing themselves with Trifles, and leaving the serious part of the Business either entirely out, or handling it so slightly, that it is very evident they may study to raise a Reputation by an unintelligible Jargon; but that they either don't really understand the main Point, or believe it sufficiently advanced by other Hands.

By this Rule, whoever has a mind to understand the Reason of Muscular Motion, must take a View of what is observable of a Muscle in Motion; so that he might not be mistaken in accounting for it: We observe then that a Muscle acting *grows shorter*; That however *its Surface is Equal*; That *its Equilibrium is destroy'd*; That *its Power is greater and swifter*; That *its Figure is chang'd*; And, That *one Terminus is immoveable*. The Change of Figure in a Muscle to Breadth shortens it; but yet Experiments try'd by the Ingenious Dr. Connor, whilst

whilst I was one of his Hearers, convinced me that the Surface was the same. We need only consult *Geometry*, that a change of Figure is no Argument of the Surface being so too; since to adequate one *Parallelogram* to another, there is a Proposition that *the Squares of equal Lines are equal*, and since ocular Demonstration has convinced me of this, I find no Difficulty to suppose it shorter, yet broader, since what it loses in Length it gains in Breadth. That the *Æquilibrium* is destroy'd, is evident; for whilst one Muscle has no greater Addition of Force than another, the Muscle and its Antagonist are both at Rest. From this Principle that *Body's plac'd at equal Angles from the Center, if these Bodies are equal, there is no Motion*; but if you join any Weight to one of them, the stronger presently makes an acute Angle with the Perpendicular and will move, and the *Equilibrium* is destroy'd. The Power is greater and Swifter, in Proportion to the Distance of the *Termini*; for all Motion is varied in the Proportion of the *Periphery* or *Radius* to the Center: So that a Muscle doubly longer will move a Weight as the Lengths squar'd. Hence a Muscle 4 Inches long will move 16 Pounds, when a Muscle of 2 Inches long only moves a Weight of 4 Pounds, if there be no other Cause that discriminates the Motion. The Figure is chang'd, for there wou'd be no Motion without this Mechanism, *the Angles being equal, the Sides are also equal*; but if the Sides continu'd unchang'd, they would be at Rest. One end of the Muscle must be at Rest and fix'd; for whatever is moved, is moved upon some Body at Rest: Hence the old Maxim of *Archimedes*, Give me something to fix my Feet on, καὶ τὴν γῆν κινήσω. But whether by a Contraction of the Venters to each Head, or by a *Pondus* drawing one Part upward, and another *Pondus* drawing the other Part down-

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ward, or by the *Liquidum Nervorum* entring and rarefying, and occasioning a contrary *Nifus*, and so enlarging the *Area's* of the Fibres of this *Rhombus*, or whether by a bare Contraction, I shall not now determine, leaving to each Person to frame what Notion he pleases in this Matter.

One thing cannot here be pass'd by in silence: Dr. Cheyne, in his *Theory of Fevers*, advances, That the Flegm of the Stomach can be no *Fomes* to encrease the Fevers; because to enter the *Lacteals*, it ought to be much more attenuated than it is, and that a Sphere with a larger Diameter than the Orifice it is to pass through cannot enter. Hence also another Gentleman concludes, That Balsamicks cannot be useful in Consumptions, for that the Diameters of the Orifices of the *Lacteals* are too little to pass them: But whoever reflects on the vast Fermentation there is in the Stomach, may guess how much any thing taken in at the Mouth, may be comminuted and divided by the intestine Motion between the *Heterogeneous* Particles of the Bodies, which we may grant here if no-where else: But if according to Monsieur *Chirac*, we compute the Compression of the Muscles of the *Abdomen* and *Diaphragm*, and that of the Stomach it self to be equivalent to 260000 *lb.* how easy is it to imagin the vast *Comminution* Bodies taken in must bear, and how much they must be attenuated, and how easily pass the *Lacteals*: Though I cannot believe that the Muscles have this Force they ascribe: If indeed they acted with a parallel Direction somewhat might be said, but the Obliquity of the Direction must make this a false *Hypothesis*, as is easily demonstrated.

I have the Honour of a Call to a Baronet, who has for some time had the Misfortune of racking Pains, and continual, all along the Canal of the *Urethra* and in the Bladder, he voids Matter, is *Hectical*, has a *Tenesmus* after making Water, his
Urine

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Urine stops in the middle of its Course, he has a Weight in the *Pubes*, and Pains like Labour and a continual desire to make Water. From such Symptoms it would be easy to conclude there was a Stone in the Bladder, and an Ulcer, if Dr. C—p—no's Authority had not absolutely over-rul'd it; however, upon search, I order'd to be made by himself, it is too evident to be farther a Doubt. Strange Stupidity, that Persons who have practis'd a Trade for Forty Years together, should forsake their Reason (pardon me the *Hysteron Proteron*) and rely only to their Senses!

Secreted Liquors in our Body differ in Degrees of Cohasions, Fluidity and Quantity.

Hence all Liquors can be separated through every Gland, if the size of the Gland be but alter'd. Hence in Icteric People where the *Ductus Choledochus* is obstructed, the Bile is seen to pass through the Kidneys, and appears in the Urine, as also in the Skin. The Laxity then of a Gland, putting a *Remora* to Motion, will make the Fluid stop there ere it can be secreted; hence that Humour secreted will be less Fluid; hence Opiates, by relaxing, make the Blood viscid; or the more complicated a Gland, the more viscid is the Juice secreted; for that so many *Plicæ* are so many Resistances to Motion, and the less the Quantity of Fluids the slower the Motion, and the more viscid is the Fluid secreted and the more the Quantity; (for that the Blood circulates in the less complicated Arteries, and finding there the less Resistance) the *Secreta* from thence are more fluid; hence also the Celerity, *Ceteris paribus*, augments the fluid Secretions; the slow Motion, the viscid ones. In short, the Quantity, the Celerity, and the Largeness of the Orifices augment the Secretion of the more fluid *Secreta*; but the want of Blood, the slowness of its Motion, and laxity of the Fibres, occasion all the *Secreta* to be more viscid. When therefore there

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is a depressed State of Blood, and the Motion is slow, we are oblig'd, to forward the Secretions as well as change them, to administer all the volatile or ponderous Medicines to amend this Fault; and, on the other hand, where the State is too exalted and the Secretions too fluid, we impede its Motion, and incrassate the *Secreta* by all the acid, watry, and cooling Drugs used on such Heads. As to the Quantity of the *Secreta*, it has hitherto been thoroughly believ'd that *Sanctorius* gave us an exact Detail of what Quantity of *Perspirabile* as well as sensible Evacuations were thrown off in a Day, till Dr. *Floyer* found the contrary in our Clime by Experiments made for that end; so that instead of 50 $\frac{3}{4}$ in 12 Hours, 'tis evident we only perspire about 7 or 8 Ounces in that time, which is nearly equal to what is exhal'd from an equal surface of the Sea in our Clime on that space. As to the Measure of the *Perspirabile* from the surface of the Lungs in the same time, I found it by a peculiar Contrivance, (I may have Leisure to mention somewhere,) to be 3iiij. $\frac{3}{4}$ in our Clime. The Propulsion of the Blood through the Lungs being so near the Center of Motion, and the Varieties of the Air's pressure being so immediately communicated to the *Bronchia*, as well as the coldness of it, having so immediate an influence over its *Secreta*, and the Part being so momentous to Life; I am so far from being surpriz'd at their Distempers, that I am amaz'd we shou'd not always suck in Death at this Port.

A Fluid of equal Velocity with another, but of greater Gravity, gives a greater Ictus than one with equal Velocity and less Gravity.

So we see in Percutient Bodies, the greater the *Pondus*, the greater is the Moment; so that the *Ictus* is not from the Moles but the specifick Gravity: Hence if the Question be about Aperients, I look upon *Volatiles* and

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and *Mercurials* join'd to be the most potent; for here you combine a ponderous Drug to one of a nimble Disposition; the two Requisites to make a strong Effort on the Fluids and Solids too.

In Cones the Resistance is least in their Axis:
Newton Prop. 35. L. 2. Schol.

Hence 'tis concluded that the Motion of Fluids through Cylinders and Cones find more Resistance at the Sides of the Vessels than in the Middle; so that the Blood is concluded to move faster in the Middle of the Arteries, than at their Sides: So that it is hence said, that the more viscid Parts are at the Sides of the Arteries, for that the Motion being slower there, and the Parts being more at Rest, have more Leisure to Cohere, and are more viscid, the Viscidity being in a Reciprocal Ratio to the Celerity.

Stimuli move the Solids and Fluids; contract and express the Fluids, and exagitate the whole Mass: They are perform'd by occasioning a mutual Action on the Solids and Fluids.

Whatever irritates, stimulates: Blisters are a notable Example of *Stimulation*. Where the Solids are put into frequenter Oscillations, the Fluids are hurried about by them with a greater Confusion; because in these we find very sensible Arguments to convince us that they enter the Blood, when we are oblig'd to have recourse to Emulsions, and even Opiates or Camphorates to allay the Dysurries they raise. Is it then reasonable in Intense Fevers to apply 'em? Is it good Practice in Phrenzies? Are they indicated in the Vigour of Inflammations? And yet how frequently do we meet with this Mal-practice? But, *Populus vult decipi, decipiatur.*

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Circles only touch in a Point; and a Sphere is touched by 12 equal Spheres in 12 Points only.

Whenever then a Body is spherical, and there is a Congeries of such Bodies, they touch each other in few Points; so that their Cohesion must be small; and consequently such Bodies will easily ascend by a small Impulse of the Fire. Hence 'tis agreed on, that Mercury being spherical, (or as *Gulielmini*, *Trattato di Fiumi*, says, spheroidical,) it more easily ascends in Sublimation than some Bodies much lighter. Yet Doctor *Friend* observes very well, that if you mix Lead with Mercury, it ascends the easier; for that the Gravity by that Mixture being diminish'd, the Surface is enlarged; and large Surfaces yield better to the Impulse.

All Impulses act with their Excess of Power only, above Resistances. Et Vice Versâ.

Hence suppose any Agent act with a Degree of Impulse equal to 6, and the Resistance be equal to 4, then the Moment of Impulse is equal to 2, its Excess of Power. We may then conclude that the greater Excess of Moment, removes the Resistance the easier. Hence is it that Ruptures of the Blood-vessels often happen from the too great Load of Blood, or the *Plethora ad vasa*; and by a contrary Reason, it often happens that the Pulse intermits; because, as in the Case of Fat on the Auricle of the Heart, the Resistance is greater than can be conquer'd in one Pulsation by the Moment of the Influx of the Spirits. The same is said of any *Pondus* that hinders the Elevation of the Heart: But when such a Quantity of Spirits are in the *Villi* of the Heart, as are more than a Counterbalance to the Resistance, then it recirculates its resting Fluids.

Animal Bodies are Porous: (ἑσπνοον καὶ ἔκπνοον ὅλον τὸ σῶμα.)

Whoever consults Mr. Boyle of the *Porosity* of Bodies, will find that solid Bodies, and such as are considerably denser than any Species of Solid in human Bodies, admit of *Menstrua* to penetrate them, such as Glass, Gold, Copper, Crucibles, Sand, &c. And therefore we can be at no Loss to conceive that the Pores even of Bones can imbibe Humidities, Humours, and even Mercury, if Authors observe justly. Hence in the Unction we find the Mercury as easily enter as Spirit of Wine; and therefore we may conclude the whole, with *Hippocrates*, that our Bodies have expiratory Passages as well as inspiratory ones, or it would be hard to imagine how Gold should turn white, if held in the Mouths of Persons under a Salivation, and that by Unction (which I mention, to prevent any objecting that the Mercurials given inwardly stick somewhere about the Jaws,) but that the Gold attracts the Mercury lodged in the Blood.

Dissolvents are so, because of Congruity of Pores, &c.

Hence *Resins* are best dissolv'd in sulphureous Bodies; Salts and Mucilages in Water; and Metals in Saline Bodies: But as Experience teaches us to know this, give me Leave to mention some few, out of many more behind: Turpentine, *G. Hederæ*, *Galbanum*, Myrrh, Refin of Jalap, Balm of Peru, Balm of Gilead, and some distill'd Oils, are dissoluble in the Yolk of an Egg; *Alkabeſt Glauberi* dissolves *Ungula Alcis* specifically; Oil of Anniseeds dissolves Coral; Spirit of Nitre dissolves Butter of Antimony; Spirit of Wine dissolves Mercury sublimate, all Oils, and Scammony; *Antimony* acts on Gold; Sal. Tartar. acts

on

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on Sulphur; *Spirit of Nitre* acts on Bismuth; Sulphur on Steel; Lead is wrought on by Orpiment into Shot; *Spirit of Wine, with Sal. Tartar.* dissolves Oils; *Salt Armoniack* acts on Brass; *Salts* melt better in Cellars, than at the House-top; *Camphire* corrects Cantharides; *Salt, Antimony*; *Mercury Sublimate* is dissoluble in Water. And *Konig Regn. Mineral.* says the same of Arsenick, which is best corrected by Salt of Tartar. *Hellebore* by Quinces, says *Antonius Ludovicus*. Hence, whenever any extraneous Ferment is in the Stomach, or the Vessels, whoever affects to cure well, must make himself Master of the several specific Dissolvents, as well as make the strictest Enquiry into the Symptoms produc'd by them, that he may be able to distinguish how he is to proceed.

Salts alter according to the different Managements of them.

Calcination makes Salts lixivial; *Distillation* gives us acid Salts; *Putrefaction and Distillation* affords us volatile ones; *Coction* gives us nitrous, armoniacal, saline, or tartareous ones. Now we may hence conclude, that Coction being the only Operation nearest to that perform'd in Blood, or rather a Branch of Coction, I mean *Digestion*; we can have no other Salts save these 4 last variously alter'd in their Texture. However, that other Salts are materially pre-existent in it; because the several Sorts of Salts mentioned can be rack'd from it by the Fire; or how comes it that *Spirit of Aunts* changes Blue Flowers into a Red, (as does Spirit of Sulphur;) and (like Spirit of *Æs Viride*) corrodes Lead or Iron, as I remember to have read somewhere in the *Philosophical Transactions*. And therefore when we are assur'd by the common Diagnosticks that Salts affect the Blood, we must use proper and specific Corrigents to one of these; the tartareous and nitrous, give rise to the cold States of Blood; but the great
Acri-

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Acrimony of the Salt (whether by our Diet or Medicine, or otherwise) occasions the exalted States: But this being a Subject too copious for my present Purpose to treat on, I leave it to some more curious Enquirer, or till my Leisure will allow me farther Trials. I am apt to believe that our Lameness in the Knowledge of the particular Natures of Salts, has hitherto made Physicians look upon *Elephantiasis* to be incurable: Some of which, however, are not so, to such as know the true Method of specifying the Antidote.

Colours are produc'd mechanically, as are Odours, Tastes, &c.

Colours are said to depend on their Salts: And to know the several Changes produc'd, we must be supposed to have some tolerable Skill in the Tinctorial Art; which at present I shall supply from the industrious Mr. Boyle: Salt-petre and Salt colours Neat's-Tongues red; Salt of Tartar boil'd in Milk makes it grow red; which many look upon to be the Case in the turning *Chyle* into Blood. A *sulphureous Spirit* of Benjamin mix'd with *Sal Armon.* turns also red, which illustrates Sanguification. But whoever would be knowing in these Matters, let them consult Boyle, &c.

Having said enough to convince any thinking Person how far this Manner of Reasoning is useful to Mankind, I have a Mind to annex some Trials made on human Blood, and some of the *Secreta*, which I have taken the Pains to collect for such whose Leisure allows them not to make so strict a Scrutiny, which at once will help our Knowledge in the Nature of the Blood, and give them some Insight into the Nature of Medicines.

Serum coagulates on dropping into it Sublimate Water; by Sp. Salt, Oil of Vitriol, Sp. of Wine,
and

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and Oil of Tartar, *per deliq*, (so it does Milk,) by the Heat of the Fire, by Allum, by several Tinctures made of Spirit of Wine, with Tinctures of Steel made with Acids.

It remains fluid with Spirit of Salt Armoniack, with Volatile Salts and Spirits, and most Tinctures made with Acrimonious Plants, with Tinctures of Steel (with Tartar.)

Blood coagulates with Oil of Vitriol, with Acids, with Allum, with Spirit of Wine, Cinnamon-Water, distill'd Vinegar. And though it coagulate by it self when let out, yet it congeals sooner with the following Trials; by Extra^t of Gall, Juices of Hemlock, *Alchymilla*, Bistort; by Lixivial Salts of Tamarisc, Rosemary, *Pulegium*, and of Thime.

Remains fluid, with Sp. C. C. ol. Tartar. Sp. Sal. Armon. Sal. Absinth, Cort. Peruvian. Pulv. or Tincture; with Juices of Lavender, Sage, *Thea* (made,) Wormwood, Bawm, Succory, Tanfy; with Lixivial Salts of *Eruca*, *Artimisia*, Shepherd's Purse.

Saliva drops a Sediment with Lixivial Salts.

Chyle and Lympha coagulate with Sp. *Vini*, Vitriol, Heat, with the Air; Oil of Vitriol.

Chyle and Lympha remain fluid, with Motion, with volatile and fix'd Salts.

Bile coagulates with Sp. Vin. rectific. Oil of Tartar. *per deliq*. Crude Allum, Tincture of Cantharides, Cinnamon-Water, Sp. Nitri, Sp. Vitriol, *Aqua fortis*, Vinegar, White-wine, Fair Water; Sp. C. C. Sp. Salis, Oil of Tartar. Nitrat.

Bile remains fluid, with Sea-Salt, *Vitriolum Martis*, Salt Armoniack, and Sal. Absinth.

S E C T.

S E C T. III.

Of the Danger of drawing Conclusions in Practice, that are false, from probable Grounds.

THIS is now a-days too common; where the Gentlemen of the Faculty begin to suppose they have reason'd *à priori*, one would be tempted to believe they deem'd it an Abasement to stoop to notice the Effects: They may pardon me till they hear what I am about to say upon this Head, for that I perswade my self they will then, with me, pass Judgment upon such an unjust and pernicious way of Reasoning.

Let me suppose, with Sir *Isaac Newton*, that the Moon does by Attraction elevate the Sea-Water into a *Spheroidal*: and thus when she is *vertical* to us (being nearer to us) does attract more strongly. There is not, that I know of, one Experiment to demonstrate that the Air is in any manner alter'd in its Weight by this Attraction. This a late Gentleman has own'd in Terms; and I shall add a Load to the Scale, if he believes it not sufficient to give Credit to the Testimony of one Witness; for having had the Opportunity of observing the Rise and Fall of Mercury in one of Mr. *Hawkesby's* 30 Inches Diagonals at several Tides, I found not any Change that was not accountable for by the present Alteration of Weather. Hence I look upon it as *gratis dictum*, to assert against ocular Demonstration, that the Blood swells, because the Compression of the Air is lessen'd; for if the Blood rarefies for that Reason only, that being evidently false, the Rarefaction built on this Supposition, is but begging the Question: But this Supposition of Sir *Isaac's*, though it

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thoroughly

thoroughly explain all the *Phænomena* he would infer from thence; yet is not so certain, but that a late Treatise of Mr. B---w's on the *Tides*, does equally prove what he advances, tho' he proceeds upon an opposite Bottom, and assigns Gravitation to be the Cause of these Tides: These are the *Quisquilie Philosophorum*, and very little to the Purpose they are mentioned for; since neither the Gravitation of the one, nor the Attraction of the other, produce any Alteration in the Air's Compression; but the Moon seems to work by a Magnetism, and leaves it in the same Condition they found it in; nor consequently in our Blood in that Sense he speaks it. 'Tis true, a momentaneous Compression only, affects the Fibres; and they being constring'd, a Plenitude arises, and the Blood moves on faster; but a durable one, also compresses the Blood; so that the one warms, whilst the other cools us. Therefore *Indications drawn thus, appear to me too far fetch'd to rely too much on*; and, I hope, when this learned Author does us the Honour he is graciously pleas'd to promise in his Preface to that learned Tract, he will lay aside those foreign Indications; because, to come to the Purpose, *Nothing indicates, but what has a fix'd Being in or upon our Body*. Now, to evacuate a Plenitude, where there is no Effects of one, would be to contrast with imaginary Evils, and such as have no Existence but in Notion. Had he prov'd by the *Itus*, the *Space*, or *Intervals* of the Pulse (after such Tides,) or by any collateral Proofs, that there was a Rarefaction, or any particular Plenitude; then indeed his Treatise, tho' it would have appear'd a less curious Enquiry to the Vulgar, would have been built upon some Foundation. Nothing then can be concluded on from this Motion, that ought to oblige us to steer our Course by.

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I shall add farther, that I look upon a *Procatartick Cause* to be a *slender Bottom* for settling an Indication on, because not permanent: And if I may be allowed to say it, they contribute no farther than to frame a Judgment; but not being any-where fix'd, cannot indicate; nay, on the contrary, these Causes often produce Effects in the Blood, remediable by the individual Thing that gave Rise to the Disease; as we see Dropfical Persons obliged to drink Wine, tho' Wine produc'd it; Persons with Rheumatick Pains from overwetting, are often cur'd by the Immersion in the Cold Bath. In fine, so many flagrant Instances of this kind may be produced, that a Practitioner can be at no loss to find them, since they occur in his daily Visits. Hence, by the way, I must take notice that what *Baglivi* says, *p. m. 206.* must be false: *Aliter enim tractare debemus Febrim ab intempestivo frigore, aliter à crapulâ, venere, insolatione, animi pathematis, aliisque causis productam.* And below, *p. 206.* *Nonne insaniret Medicus, qui ardentem Febrim à nimia venere productam eadem methodo purgantium, venesectionis, &c. aggrediretur, quâ ardentes aliis causis ortum debentes aggredi solet?* I only answer, *Amicus Plato, Amicus Socrates, sed magis Amica Veritas*; for I shall endeavour to make it plain in the next Chapter, that all this is uncertain, since our Indications may be the same in all or any of them, and therefore not always different nor variable, by reason of the external Causes.

There is another who has reason'd too much *a priori*, in his *c. 3. of a Consumption*: His Argument stands thus from *Data* in his Propositions; From any Suppression, arises a *Plethora*; from a Plenitude, arises a *Relaxation of the Fibres*; from a Relaxation of the Fibres, arises a slow Motion of the Blood; from a slow Motion of the Fluids, arises a mucous and viscid State of Blood; from

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this Viscidity arises a Paucity of Spirits; from this Penury, arises an Incapacity of Dilatation of the *Thorax*, (and a want of sufficient Air to compress;) from this Ineptitude to Dilatation, arises a Stagnation; from a Stagnation, arises an Inflammation; from an Inflammation, arises an Ulcer, or a confirm'd Consumption. And he draws his Indications from this manner of Reasoning, thus: Hence, says he, the *Humours must be render'd more fluid*, the *Fibres made tenser*, and the *Phlegm evacuated*; so that we must attenuate, contract, and evacuate. As for Balsamicks, he looks upon them as useles; only they are Stomachicks, if mix'd with Salts. Let us consult some Authorities upon so nice a Point; and then I shall reason from *Experience* in a very different manner. *Barbette* uses in a Consumption Opiates, Spirit of Salt, and cooling Things, and advises to forbear Purgatives: And *Dekkers*, upon him, adds Pectoral Decoctions and Decoctions of Colewort, with Sugar of Roses. *Sylvius* advises Gum-Arabick, Roots of *Althæa*, Liquorice, Comfrey, Leaves of *Althæa*, Mallows, &c. the four Cold Seeds, Quince-Seeds, Almonds, Barley, *Opium*, Juice of Liquorice, all fat Earths, and such-like. *Etmuller* gives Milk, Spaw-Waters, Opiates, &c. *Morton* prescribes Milk, Spaw-Waters, Opiates, and smooth Pectorals, and thin Diet, oleous and mucilaginous Medicines. *Sennertus* advises Humeatants and Refrigerants, such as hinder the febrile Temper, smooth Medicines, Butter unsalted, Milk, and such-like. *Nicholas Piso* advises Snails, and Snail-water, Milk especially, and smooth and mucilaginous Medicines. *Hieronymus Cardanus* commends Oil of Vitriol in Water of Maiden-hair. *Lucas Tozzi* commends *Storax* and Cynogloss Pills. *Borellus* praises Butter of Woman's Milk, as a Secret. *Valescus de Tarenta* commends *Pulvis Haly*. *Rhasis*, Asses Milk. *Platerus* advises
Sugar

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Sugar of Roses; so does *Valeriola*. *Riverius* advises Milk as the best Remedy, and such as answers all Intentions; Medicines that repress the Heat and Coolers. *Willis* advises Flowers of the great Daisie, Snails, Liquorice, Milk, and such-like, Shavings of Ivory, Hartshorn, and China in Decoctions. *Mayern* says the Acrimony of the Humours is to be obtunded, the Febrile Heat is to be temper'd, and Milk to be used. *Chesneau* advises a Decoction of China and Lungwort, and Milk. *Horstius* corrects the Acrimony, and uses Opiates.

I have taken the Pains to bring such a Crowd of Authorities, to the End that Practice and Notion might co-incide; because whoever would be a just Practitioner, must go backwards in his Reasoning: And therefore since I find, by such good and grave Men, Consumptions treated in a very contrary manner, 'tis my part to submit to their Judgments, where I have not sufficiently experienc'd the contrary: Let us then see how, upon so solid a *Basis* as the Experience of Ancient and Modern Learning, we can draw a different Conclusion from this Theoretical Gentleman. I say then that any Suppression may occasion a *Plethora*; that a Plenitude occasions the *Positions of the Vessels* to be more direct; from the Tension and directer Position, arises a swifter Motion of the Blood; from the Motion encreas'd, arises a Fluidity and Tenuity of the Blood and Juices; from this Fluidity, arises a larger Secretion of Spirits; from the Quantity of the Spirits, arise irregular Excursions of 'em into particular Parts; from this, arises a Crispation of the Fibres; from this, arises an Inflexibility of the *Thorax*; from the small Motion of the *Thorax*, arises a Stagnation; from the Impediment put to the Motion of the Blood, arises an Obstruction of the evanescent Arteries; from an Obstruction there, arises an Inflammation; from this, arises an Abscess,

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and an Ulcer of the Lungs: So that an Evacuation is requir'd; after which Relaxants, Incrassants, and such as clog the Hurry of the Motion, fasting from too spirituous a Diet, Opiates, oleous and mucilaginous Medicines, gentle Aperients of the cooler kind, Bleeding and Balsamicks are all the Requisites in a Consumption; which, whoever has either read or practis'd, cannot but be pretty sufficiently appriz'd of, to need any farther said on this Point.

Mention shall here be made of an Inference made by *Pitcairn* in his *Oration to the University*; after having made use of Arguments to shew us that Objects in the Eye could not be observ'd on the *Retina* (which was no Discovery, as I have hinted above;) he gravely proceeds, and tells us, that since it was evident to a Demonstration, that those Bodies that appear'd before our Eyes, had not their Abode where it was commonly suppos'd, then it could not be agreeable to right Reason to apply *Collyria* to dissipate what had no Being, and concludes them useless. This, I conceive, (with Deference to the *Manes* of so great a Man) was a Conclusion too hastily drawn; for let us suppose that these Specks are so many Impediments to the Reception of the visual Rays, and that they are a Consequence of some Fibrils of the *Retina*, being bung'd up and obstructed by some Viscidity or external Compression: Is it not certain that the Coats of the Eye are Expansions of the *Dura* and *Pia Mater*, and that the *Retina* is the medullar Part of the Brain? Is it not daily and good Practice to order external Stimulants to Palsied Nerves in other Parts of the Body? Is it not certain (at least *ex concessis*) that these are so many partial Palsies of the *Retina*, as there appear Specks? Is it not certain that a total Palsie of the *Retina* is a *Gutta Serena*? Is it not certain that the nearer we approach to the

Part

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Part affected, the more Effect will the Medicines produce? We may then, I think, safely conclude, that *Collyria* well adapted are so far from being useless, that they are necessary to stimulate the Coats of the Eye affected, in order to occasion a brisker Oscillation in the Fibres of the Part, and so assist the shaking off of the Obstruction; and consequently when this is done, the Specks will appear no more.

A Critick is an unwelcome Guest; and if my Design had been to find Fault out of an Itch of Satyrism only, I deserve Returns made me; but the Good of my Neighbour being my sole Aim; and the Treatises mentioned being Works produced by the Labour of Men of Value and Reputation in their Professions, I consider that such great ill Examples lead the rest of the inferior World into miserable and wretched Mis-managements, which are succeeded by the Destruction of Thousands; because tho' the Inventors of such Reasoning can in Practice correct their own Mistakes *pro Re Natâ*; yet such as trust to their Demonstrations cannot: And thus we purchase at the Bookseller's, not the Art of Healing, but the Art of Destruction.

From this I would advise all Practitioners to avoid begging the Question, and affirming any thing contrary to known Experience, but would have 'em proceed with Reason, back'd by Experience, the only Props a Physician can rely on.

SECT. IV.

Whence Indications are drawn.

I Hinted above, that nothing could indicate, but what was somewhere fix'd in or on our Bodies; for that external Procatartick Causes did not al-

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ways act on us as they might ; and that however if they did, they did not always produce such Effects in us, as Conjecture had dictated ; and that therefore, to know what Effects they did produce, we were obliged to have recourse to Observations taken from the deprav'd Functions of our Organs, the preternatural Change in the Qualities of our Fluids and Solids, and the Retentions and Evacuations of our Fluids. I would not have Physicians terrify'd from Enquiry into these permanent Effects ; for that Mr. Boyle has affirm'd, that the Causes of Diseases are not yet assign'd, *Philos. Experimental*. On the contrary, with leave of so great a Man, I do'nt find but they are ; and whoever considers what I am about to advance, will be sensible they already are: However, the Diagnosticks of such *Effects* are not thoroughly ascertain'd, nor ever will. You will pardon my confounding the Words *Effects* and *Causes* ; but I say with *Mercurialis de Morbis Pueror. l. 1. p. m. 13. Morbus dupliciter spectatur ; Morbus ut Causa, suos habet Effectus ; ut Effectus, suas habet Causas.*

I shall begin with *Plenitudes* ; and I take them in an extensive Sense, not as a Plenitude *ad vasa* and *ad vires* only ; but where-ever there is any particular Repletion, any Stagnation, any Compression of and from Humours, I look upon them all to require the same Mechanism in their Cure ; for that *Quod plenum est, evacuari debet. Galen. l. 1. Aphor. Comment. 23. Martin. Wendelinus, l. 3. Axiom. Medic. Axiomat. 780.* So that where-ever a Part or the Whole is loaded with a Quantity of Fluids, we must there evacuate. This holds true in external Cases, as well as internal ; for in Gangrenes, where the Part is distended with Humours, and there is an Impossibility to recirculate the stagnating Blood, we must scarify, to evacuate the Plenitude ; which being taken off, the Remainder in the Part beyond
and

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and below the inflam'd Member begins to obey the Motion of the propelling *Impetus*; and (if no great Alteration is produc'd in the Part) 'tis after this Method easily amended. So if we discover the Head to be overloaden with Humours, as is commonly evident, because 'tis *καρσαρχόν, καταρριαχόν, and κοματώδες*, according to *Hollerius* and *Duretus*; we are then to consider whether this Repletion be from a pure or an impure *Plethora*, and we must accordingly suit our Evacuations. We must then say, that there are two sorts of Evacuations, Instrumental and Medicinal: To the First are referr'd the *Paracentesis* or Apertion, in any Sense: To the latter all the *Stimuli*, which not only have an Effect on the Stomach and Intestines, but also on the Vessels and secretory Duets; so that the Shock and Irritation give an Uneasiness to the Glands, and squeeze 'em by their acrimonious Parts to Evacuations, as does the *accidental Shock* given to several of the *Viscera*, when, for Example, an *Emetick* given, opens Obstructions in the Gall-Bladder, and shakes off the Load of Phlegm from the *Bronchiæ* in *Asthma's*: To this Head is referr'd Riding in Asthmatick Consumptions; for, to speak Truth, Dr. *Sydenham* can mean no other, when he advises Riding in such as are even much spent. My Bounds will not allow me to expatiate farther on this Head at present.

An Atrophy is an *opposite* to Plenitudes; and I would be understood to take this in as large a Sense as I have done in the former Paragraph; so that where-ever there is any Defect of Juices in General or in Particular, the Business of a Physician is to supply some amicable Specificks, in order to restore the Want; where no Evacuations can take Place, but only such Alterations as are of the same Nature with the Juice or Fluid to be supply'd. So that here we are suppos'd to be Masters of the Nature of such Juices, or we can never act the
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Part of a Physician, in amending we know not what : I would not, however, be understood to ask an Impossibility of any Agent ; and therefore since there are several of the Fluids in Human Bodies, whose Natures we are very unsensible of, *à priori* ; because they fall not under the common Method of Experiment, such the Spirits are ; yet 'tis enough to a Practitioner to know the Nature of 'em, *à posteriori* ; and since we find them recruited by certain nimble Agents, we are, however, look'd upon to be sufficiently appriz'd of the Nature of such, when we administer such as Experience has found out, by a patient Series of Tryals to supply 'em ; so that when they are wanting, we give all the Cordial Medicines, such are volatile Spirits, Aromatics, and volatile Oyls, given in such Quantities as may supply, but not add any Exotick Quality that may contrast with any Contraindicating Cause : So the *Semen* is supply'd with such *Particles* as answer its double Nature of Mucilage and Acrimony ; hence we give Oysters, Pepper and Milk, Spanish Wines and Yolks of Eggs, Chocolate, and such-like Drugs.

The *Defect of Ferment in the Stomach*, is supply'd with Mucilages and Acids join'd ; such are Elixir of Vitriol, and warm Jelly, and such-like. As to *Old Age*, whoever falls under a Decay of Spirits, are properly old ; and therefore that mighty *Ensmelisse* of Mr. L' *Febure's* can be no otherwise serviceable, than that it is a great Restorative of the Spirits ; which, however, I leave to every Man to judge whether it will do the Feats they pretend. The Difficulty of supplying the deficient Fluids is not so great a Secret as the Discovery of such Defects, which, if Time allow me, I shall endeavour to illustrate in a proper Season.

3. *The Blood is often stock'd with Exotick Qualities*, which constitute the different States of Blood, and

and which Justice has been done to, by the Ingenious and Laborious Dr. Floyer : *In the depress'd States of Blood*, where our Heat is below the Standard, if there is a *Lentor*, all the Bitters, Aromatics, fixt and volatile Salts are indicated, Chalybeats are good, Mercurials are here proper too; Riding is profitable. I here wou'd Remark one Thing, because I have often found Practitioners in some Mistake about it. When Pains seize a Patient and wander about the Body, but yet have no Heat along with them, that is, not Natural, or are not plainly Convulsive, I have seen dismal Consequences from Bleeding frequently in this Case; for that Dropsies have ensu'd upon it, and they have only chang'd a less Disorder into a much greater. If these Gentlemen would but give themselves the Leisure to reflect, that the Blood being sluggish, and resting at the Capillaries, gives Rise to these Pains, they would then judge, that volatile Medicines would cure the Patient very easily, and save them their Reputation

If the Blood is Sour, by Diet, Medicines, or the Retention of any Humour that ought to have been thrown out of the Body, we must give the Alkalines of all Sorts, whether testaceous, fixt or volatile, Chalybeats, and whatever will rob the Blood of this obstinate Guest, which generally attends the Hypochondriack Persons. 'Tis yet an easier Task to the Undertaker, when the External Causes have sour'd the Mass and Spirits, than when the Passions of the Mind have deprav'd them; because it is easier to deny them what is hurtful for them, and forbear to give them such Fare, than to bridle an irregular Passion which attacks them unseen and when alone; and it would not be easy to conceive how an invisible Form should so disturb Matter, but that it occurs in daily Practice.

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When our Blood is too Serous and Fluid, all Absorbents of the Testaceous kind are useful, Cerufs of Antimony, all Diaphoreticks and Diureticks, all Bitters, Petasitis, Guaicum, Sassafras, Juniper-Wood, Mustard-Seed, Horse-Radish, Pulv. Æthiop. and such-like, are proper to correct the too watrish and lax State of Blood, and carry them off by the Pores of the Skin or Kidneys.

Wind is the Produce of all vitiated States, and is carried off by the most powerful Incisers, such as volatile and oily Salts, Aromaticks in Pouders, Infusions, Waters, and Oils, Ginger or Castor in Wine. If the Wind is rais'd from an acid State of Blood, the State from whence it is produc'd being hard to get rid of, the Wind arising from the Fermentation of that Humour in the Stomach is also difficult to cure. I remember a Lady of Note, who, for a considerable time, had been troubled with a Swelling or rather a Fulness at her Stomach, which she could not be cur'd of by her Physician in Ordinary; upon Application to me, I did believe it was Wind, and proceeded on in such a Method for six Weeks as I judg'd might have been effectual; but to my surprize, at the expiration of that space she was as full of Complaints as at first: By the Obstinacy of the Disease, I had just Reason to suspect that this was an acid Wind, if I may so term it, and therefore I gave her *Antimonium Diaphoreticum* in Juleps, which in a Fortnight's time perfectly reliev'd her, and she return'd better satisfy'd than I was.

I must here remark once for all, That all saline States, whether acid, nitrous, salino-sulphureous, (fixt or volatile) or any species, whatever of them are cur'd, as Bohnius observes, by Watry Drugs, Terreous, Testaceous, Gritty, and Martial ones, alcaliz'd Salts whether urinous or fixt, Aromaticks and Bitters, also by oily, muciluginous and gelatinous Medicines:

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dicines: so that if we are ignorant of the peculiar nature of the Salt offending in the Mass, yet we are not at a loss to be doing somewhat to the Purpose, till some Chance let us into this Secret.

Hence when we labour under Diseases that can be ascrib'd to any one or more of these Heads, we must follow the Rules that are hinted at below in the *Enodia Medicorum*.

If the Blood be hotter than it should naturally be, so that the Laborants are always Hectical, by having their Pulsations more numerous in a Minute than they should, along with a preternatural Heat in their Bodies, but most perceptible in the Palms of the Hands and the Soles of their Feet; then we are to consider whether the fixt or volatile Salts reign most, or whether the volatile Acid is predominant; not that I suppose them really such, but I speak *ad apparentiam*; for that we find by daily Experience that Acids amend the one sort of hot State of Blood, and gentle Absorbents, as Pearl, Coral, Crab's-eyes and such-like are profitable in the other: But, as I observ'd above, in both the Diluents, &c. agree.

As to the *Flatus* produc'd by these hot States, as they are from a more volatile Cause, so are they more impetuous in their Effects. We suppose Convulsions, *Mania's*, *Vertigo's*, *Incubi*, and such-like Disorders to proceed from this Wind; we therefore give, in such Cases, Opiates to repress them, and in some Cases Spirit of Niter is a good Medicine: But 'tis enough to have hinted at these States in so short an Essay. If we are guilty of that Ignorance *Etmuller* (*Anotation. Practic. ad Institut. Medic. Physiolog. p. 82.*) stoops to acknowledge; I cannot say how far his Advice squares with Reason, since Patience and Vigilance perhaps would better serve the Turn.

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Fevers are the *Destroying Angel* of Mankind; and a thorough Knowledge of them is a compleat System of Physick. They are a Plenitude, in that they are not cured but by Evacuation, and the Medicines us'd in their several Species are but Preparatives to fit them for Expulsion. But I speak with reference to a precedent Concoction shew'd in the Urine after the State, whose dropping a regular Sediment (by which I exclude the *σφοδράταλαγγυμνον*, and the *κατασπασμωδόν*) is a good Sign, if it continue steddily so. I shall not expatiate here farther, than to divide them into a *Causus*, and a hectic or malignant kind. If the Blood boil, (pardon the Term,) and over-bear extravagantly, let the Time of the Fever be what it will, nay, let it be what sort of Fever you please, (*always excepting a Plague*;) you are obliged to give the cooling and diluting Diet and Medicines to allay the Fever, by disjoining the Salts; such are Barley-water, Juice of Lemons, *Gas Sulphuris*, *Sp. Vitriol.* *Sp. Nitri dulcis*, Emulsions, (unmix'd with Acids, for Fear of Precipitation,) and such-like. You ought not only to ascertain the Nature of the Medicines that alter this Hurry; but you are oblig'd also to be careful to fix on what Degree and Quantity you must not exceed. In which Affair I believe a *Thermometer* might be of Use, supposing we knew what was their Degree of Heat whilst in perfect Health; otherwise Experience only can be your standard Rule. I have hinted this, in order to warn the young Gentlemen of the Faculty to keep in Mind, that in all Fevers (still excepting the Plague) you must reduce them as near to the natural Heat (they us'd to be of, when in Health) as you can, and keep them to it so long as till the Fever is dismiss'd through some Emissary. Whenever the Fever is of such a Species, that the Blood moves on too slowly, respectively speaking, we then are obliged to steer another Course,

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Course, and in Proportion to the Degree of the defective Ebullition, we must advance it by all the Testaceous, Bitters, Fetids, fix'd or volatile Medicines, internally administer'd, or externally applied, till it arrive to a certain Standard, fitted for Expulsion, the Ignorance of which is the Bane of the Patient, and an *Opprobrium* to the Physician. In this Species then, Coral, Crabs-eyes, Pearl, *Serpentaria Virginiana*, (with Bole, &c.) volatile Salts, and the like, Blisters and *Suppedanea* externally, are prescrib'd. I shall annex a short Explication of *Hippocrates's Aphorism 29. Section 2.* and bid adieu to this copious Subject: *Incipientibus morbis, si quid movendum videtur, move; vigentibus autem, quiescere melius est.* Where there are any Signs of a *Turgescence*, (as where the Humours [*ὑποχρεῖς*] run impetuously, and are like to fix upon any noble *Viscus*; where there is a Tenuity and Separation, where there is any Malignity or Pestilence, and where they are plentiful,) then Evacuations are requir'd; only remember that such Purgatives are not to be given in any time of the Fever, as may produce any Effects beyond the Canal of the Stomach and Intestines. The Reason of which is so obvious to any thinking Person, that I need not annex it. You see I have chalk'd out the Reason why I have always excepted the *Plague*, from the Management above named: But I shall add, that where the Humours in such a Disease are so thin that they will not cohere, the Spirits are in the utmost Danger of Evaporation; as in the contrary State, where the Humours and Blood cohere so violently, that they are immediately render'd incapable to obey the Propulsion of the Heart, there is no leisure for Preparatives, and the limits of our Choice are wonderfully narrow'd; so that the Procedure must of Course be hasty, and they are best expell'd with speciflicated Diaphoreticks, by the Consent of all Ages.

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Ages. As to the particular Fevers, they are all terminated *Criticando*, (to use *Cornax's* Term:) So that each Place has its particular Port for Evacuation; the Head by Hemorrhages; the Vessels by Sweat; the *Uterus*, by the *Menstrua*, &c.

The Discovery of the *Bark of Peru* has furnished us with an Indication never till then dreamt on; which I may call a *Period*, though I mean the Remission of that Period only. So that not only Intermissions of Agues, and the Remissions of Putrids, but also periodical Disorders, such as Convulsions, dry Asthma's, and Epilepsies, receive Advantage by the Administration of this Drug; and all Evacuations of Humours that depend on a Febrile Ferment, such as *Hæmoptoe's*, the immoderate Flux of the *Menses*, and such like. But this being so undoubted and so known a Truth, I shall proceed to another Head.

As the Laws of Circulation now stand, we often are obliged to have Regard to the Hurry of the Humours, (abstracting from all other Considerations,) with a wrong Determination.

Where they flow with Violence to any particular Part, so as to endanger the Patient's Life immediately; as we see it happen in all sorts of *Irritations*, such as Pains, Coughs, Eruptions, Convulsions, *Diarrhæa's*, and such-like. *In all Inflammatory Obstructions*, such as *Pleurifies*, *Ophthalmia's*, &c. *In every Anomaly*, such as Retreating Gouts, Itches repell'd, &c. *In Insalubrious Metastases*, &c. In all these, and such-like, one constant Indication is turning the Current of the Motion to an opposite Goal, which is done by the proper *Stimuli* applied or administer'd according to the following Standard, viz. by an universal or a particular Revulsion; when the Motion offends in a violent Manner, the larger Vessels are to be open'd on the contrary Side. And the

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the other general Revulsives are to be used; *when the Motion is in some measure allay'd*, Derivation (or Revulsion to a near, though contrary Part) is sufficient; and *when the Humour flows in no more, but is impacted in the Part*, we must then use particular Evacuation (such is opening the Vein of the Forehead in a Pain of the fore-part of the Head.) As to the Number of Ways this can be done; as to the Cause of this vitiated Motion of our Fluids; as to the particular and specifick *Stimuli*; as to contra-indicated Revulsives; as to the Season of using Revulsives; as to Rules and Season of particular Evacuations; I hope 'tis not expected I should now detail them.

There is an opposite Fault in our Fluids to what I come from mentioning; and that is, they frequently are *defective in their Motion, and are suppress'd* (*Quiete & Motu Intermissio, peccant Humores.*) This the Ancients call'd a Defect of the Expulsive Faculty. I shall not enter upon the particular Causes of this want of Irritation; but shall content my self to mention the general Methods of remedying this Rest, which is always perform'd by *Irritation*. But as each Part has some Conditions annex'd to produce this Change, so one Specifick here will not serve the Turn; but in *Astriction*, all saline, bitter, and other *Encoproticks* are requir'd. *In a Retention of Urine*, the different Species of Diureticks are to be given, and the continent Cause is always remov'd by a Catheter. *In a habitual Vomiting suppress'd*, gentle Emeticks, or what will carry it downwards. *In a Suppression of spitting of the Lungs*, all the inciding Pectorals, such as *G. Ammon. Flor. Benzoin. Extract. Croc. Milleped. Tinctur. Sulphuris, &c.* *In a Suppression of the Menses or Lochia*, all the Emmenagogues. *In the Hemorrhoids suppress'd*, all the irritating Glandes; nay, sometimes gentle Causticks rubb'd on, such as Fig Leaves, &c. *In Ulcers suppress'd*, Causticks, Blisters

sters, &c. near the Place, as also Netling, &c. This I look on to be enough to give us a Notion of this Head; and therefore I draw my Hand from off the Board.

There is yet one thing remains unmentioned, and that is *Adhesion of Humours to a Part*: And as it proceeds from this, that whenever any viscid Particles expos'd to the Air lose hourly more of their Humidity, and turn into a Crust at last; so they are never loosen'd without the oleaginous Medicaments. This holds true in our *Earwax* sticking close to the *Meatus Auditorius*, where, by Injections of oily and emollient Medicines, 'tis at last loosen'd, and thrown out. So it often happens in dry Constitutions that the *Fæces* stick close to the *Plicæ* of the *Intestines*, which are best and safest loosen'd by oily Medicines, (by the Mouth and *Anus*.) This is yet most of all remarkable in the Lungs, where the violent Adhesion of viscous Phlegm requires vast Force and frequent Impulses to shake it from the Fibres it strongly adheres to, and which is not in this Case promoted one *iota* by the Inciding Medicines in the whole *Materia Medica*; nay, it were well if I could say they did no Prejudice in this sort of Adhesion; but once let them take plentifully of the oily *Lixtus's*: They glib the Orifices, and by lessening the Adhesion; the Spit, which before fatigu'd the Patient almost to Death, obeys each Shock of the Breast and Lungs, and comes easily up.

Having thus in short given you a Sketch of the Indicants that naturally arise from the Consideration of Fluid Parts, I shall proceed to give you a little Detail on the Consistent and Solid Parts.

Though it be a great Truth that the consistent Parts only are vitiated secondarily from the *Vitia* in the Fluids; yet it is not my Business here to dispute how the Parts come to be affected by such depraved Juices, for that Physicians are never called on to

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to prevent such beginning Vitiations; and therefore I shall here only consider them already bred.

When any *Mouths of the Vessels are open'd, or even eroded*, there arises an Indication to make use of all Stipticks or agglutinative Medicines, and if *external*, of Cathereticks, to shut and contract, or crispate the Orifices. Whatever Medicines have not some one of these Powers, their Operation then is only accidental: So that Crabs-eyes or (which is more porous, and more effectually works, as 'tis specifically lighter) burnt-Hartshorn can only curb a *Diarrhœa*, as they absorb the Humidities or Acidities that occasion this Irritation and Evacuation. Having follow'd the Advice of a great Man in using a *Suffitus* of *Calx viva* on Vinegar in an *Hæmoptoe*, (where all Medicines prov'd ineffectual, and where the Stream was so copious, that immediate Death must have been usher'd in by it,) with a surprizing Success; I begun to make Inquiry whether the Steam were not some-what catheretick, or what other quality it acted by; I found that there was a Styp-ticity when Lime and Water were permitted to evaporate into a Recipient. And as to the Vinegar, there is no Question how much its Spirit, though diluted with its Phlegm, is stiptick: But I can hardly believe but the Ebullition had snatch'd up some small Particles of the Lime it self, which made it so immediately successful. If I am ask'd how *Riverius's* Mixture of *Sal. Absinth.* and *Succ. Limon.* as also how *Opiates*, and several other *Ar-cana*, made use of in Evacuations, produce their Effects, if the above named should (as they do often) fail? I shall answer 'em, That Diseases seldom are the same in Individuals, and that I am now only mentioning Indications separated and abstracted from any complex *Idea*, and leave each to his Reason to guide him in the Necessity of Choice.

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It sometimes happens that *Fat or some fleshy Substance, such as Polypi in the Heart or Arteries*; bung up the Passages irremediably; for where they are *External*, if Discutients and Emollients fail of their Effect, corroding Medicines, or the Knife, or Fire, will eradicate them; which, however, are safest neglected where they are affix'd to any Tendon or great Artery: So the *Cauda Equina* and *Tentigo* in Women are either dispersed; or if more fix'd, then Burnt-Allom or *Ægyptiacum* are good, or the Knife (which is more easily done, to the Timorous, by a Horse-hair ty'd a-round it.) If *Fat* stop the Circulation about the Heart, the only Relief, which is very small, is knocking the Breast after a full Inspiration. *Forestus* commends in a *Sarcoma of the Testis*, *Ciner. Sermentac. Nitr. aq. imbut. & induct. L. 26. Obs. 18.*

If the Parts unite that ought naturally to be disjointed, we must take a short View how far they are remediable. I remember to have seen a Child which I was call'd to, who pass'd the *Meconium* through the *Vagina*, the *Anus* being imperforated; I began to consider whether the intestinal Duct was continued to the *Foramen*, or terminated at the usual Place of Perforation, which I look'd upon to be the *Cynosura*, to determine me: As far as I remember, I believ'd the Sphincter terminated at the *Anus*, and I did accordingly give the Surgeon Directions to observe narrowly whether the Aperture might not be made there: What was done I never had a second Opportunity to observe. But I must add, that whereas it is commonly said (without any Restriction) such an Imperforation is not to be meddled withal; I must beg leave to dissent from these Gentlemen; for if the Sphincter terminate at the *Anus*, and the Canal be no part of it, nothing can be safer attempted; and if it be a part of it, yet 'tis not very difficult to contrive an easy Method to accomplish

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accomplish the Task; which I shall mention, if ever I have farther Leisure to put my Papers into Order. Under this Head the *Adhesion of the Lungs to the Pleura* is to be consider'd, which can be remedy'd, if not too strong, by the violent Motion of the Arms, and Breast, strong Expirations, and oily Medicines internally; unless you are willing to follow *Hippocrates* his Advice in the matter, in opening at the Point of Adhesion, and by thrusting in a Pipe, to which a Bladder is fix'd, and blowing up the Bladder, to destroy the Coalescence: But having hinted at this, I shall pass to another Paragraph.

An *Atonia*, or a *Laxity*, is the Basis of many Disorders, as the learned *Baglivi* has sufficiently made out in his *L. de Fibrâ motrice*, 'tis reliev'd by all the Aromatick and Stiptick Drugs; the first of which evaporate the Humidities, whilst the others contract them into a narrower Compass: 'Tis upon this Head *Biondi's Pills* have been found a mighty Secret in the *Vertigo*: 'Tis for this same Reason that the *Tinctura Luna* is so useful in the Loss of Memory: So in the Relaxation of the *Phrenick Nerve*, we find Stipticks advis'd, and even an Injection of them after Section. The Laxity of the Glands of the *Uterus* in the *Fluor Albus* is reliev'd by the abovenamed Medicines. The *Turks*, after their *Bastonading*, find Alcanet a sovereign Remedy. If a *Softness of the Juncture of the Sutures in Children remain long after the Birth*, 'tis amended by Aromaticks, Sulphur and Nitre. In a *Tympany* (which I take to be the *Hydrops Epiploicus*, and which I have upon Dissection seen,) where the Danger is in spilling the Contents into the Cavity of the *Abdomen*, which turns it to an *Ascites*; for as a *Vomica* is less dangerous than an original *Phthisis*, because the *Cystis* the Matter is contain'd in, is between the Lungs and the *Pus*; so a *Tympanites* is less sudden than an *Ascites*, where the Tu-

nicks of the *Omentum* keep the Lymph from immediately affecting the *Viscera*. In a Tympany, I say, to hinder this Effusion, we find *Vitriolum Martis* commended internally, as also *Spir. Sal. Coagulat. in Aq. Ceras. nig. C.* and externally cool Fomentations of Nitre and such-like; we also find *Lusitanus L. 2. Obs. 48* commending the Spaw's near *Liege*, which, whether he means the *Savinir* or *Paubont*, have a Stipticity in them as they are Chalybeate; and modern Experience instructs us that our *Tunbridge-Waters* are useful in this lax Habit, which disposes to a Dropsy. But enough of this Head.

The next Head is *Obstructions*, which was us'd (to any who has been vers'd in reading the Antients) to be the *Asylum* in all unknown Distempers, and to say the Truth, modern Physicians fall little short of the same *Jargon*. It is to be own'd the commonest Cause of these Disorders, but not the only. The several Tumours depend on this Head; so do Apoplexies, Palsies, and such-like: So that Volums are compil'd on this one Indicant, all which are a *Crambe repetita*. In general, all the fixt and volatile Salts, all the acrimonious and bitter Plants, all the heavy mineral Preparations are here useful; such are *Sal. vol. oleosum, Sp. C. C. &c. Sal. Genist. Juniper, &c. Rad. Raphan. rustican. Genzian, &c. Æthiops mineral. Chalybeates in Filings or Infusion, Antim. Diaphoretic. &c. Sem. Sinap. &c.* But as it depends on a State of Blood producing it, and in this sense is a *compound Indicant*; if then it depend, as *Baglivi* observes, on an exalted State of Humours, where the Fibres are therefore obstructed, because wrinkled by the excessive Heat, we are accordingly oblig'd to act with a *complex Intention* to open, yet cool, which in themselves are a seeming Contradiction, yet easily reconciled to daily Experience. In this Case 'tis observable, that

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that Spaw-Waters that are *Chelybeate*, cool; and yet deobstruct gently in Palsies from Bilious Cholicks; and I have in this Case seen promising Effects from *Vitriolum Martis*, *Sal. prunell.* and Decoctions of *Santalum*. In external Cases, Repellents, Discutients, Emollients, and Suppuratives are the Complement of Applications; but *where the Impaction is strong* we proceed to *Sinapismi*, Blisters, Causticks, Apertion, and Section; particularly where the Obstruction is total; so that none of the Juices can recirculate, as is the Case of Gangrenes. Should I annex all the Cautions hereunto belonging, it would swell into more Pages than I have Leisure to write; and it must be consider'd that this is design'd only as a Sketch of a larger Tract.

The Stone of the several Parts of our Body, is an Effect that deserves a serious Discussion; how they petrify we need only consult the several petrifying Waters, and consider what is observeable in them. I remember about 17 Years ago to have met with one of this kind in *Northumberland*, on the South-side of the River *Alne*, over-against a Place call'd *Hawkwell* near *Alnewick*; where, from the South, there runs a Rivulet into the River; 'tis towards the East-side of this Brook, about One hundred Yards or two and upwards on the Bank-side, there I remark'd the Fountain perfectly clear and sweet, and in running down it leaves jelly'd Icicles, and all the little Plants in its Way are crufted with Stone: If the Particles of Stone in this Water were not very minute, they would subside and be visible; but being, as I may say, *in solutis principiis*, they cohere in their Course into a Substance, which, when the Humidity is perfectly exhal'd, is Stone: Upon Coction of two Quarts, there were not a Grain or two Weight of a white Sand at Bottom. 'Tis doubtless thus in human Bodies that Stones cohere, and as the Heat in Bo-

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dies helps to exhale, and the Remora's to Motion make them approach, they sooner harden, and turn to Stone. I can say little farther to the Preservative's, than that Bitters, and such as will hinder Congelation, may probably concur to make this Lapidifick Matter pass off in *Solutis principiis*: 'Tis said the *Indians* never heard of such a Disease, and that this is owing to their drinking of Thea; but I believe I may add that there may be some Doubt that our Waters even in Thea-Drinkers are not quite so clear of stony Particles as theirs may be; but this being Conjecture, I leave it. Whenever the Stone has no Passage for its Expulsion, nothing can follow but inevitable Death: But in such Places as we can reach it, a double Indication arises; the one is *glibbing the Passages*, and the other is *giving a shock to the containing Parts*. But the first belonging to another Head, I shall not anticipate my Observations, but here shall remark that Emeticks, Catharticks, and Diureticks, Sneezing, Riding, Jumping and such-like, are *what expel it from the Kidney's; in the Bladder*, Diureticks or Lithotomy; *in the Stomach*, Emeticks, Catharticks, and acid Lethontripticks; and in short, Expellents in all Senses. I cannot pass by one Observation of an ingenious Physician, whose Practice my Father had for some Years the constant Insight of; he told me that the Doctors Preservative against the Stone, was, common Salt for Breakfast; which *Helmont* also praises.

Many and dismal are the Effects of *Worms*; so that *Pechlin*, p. 160. says, *Nullum tam peregrinum esse symptoma, tamque Δαιμωνιακόν, quod vermes excitare non possint*; the Cure of which *Morellus* tells us, is thus perform'd, *Quacunque qualitate vel manifestâ ut acrimoniâ, amaritudine, fâlsedine, vel aciditate, quos sâpores lumbrici fastidiunt, vel occultâ potiuntur*, are such as kill them: Hence Juice
of

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of Lemons, *Sp. Sulphur*, Salt, *Sem. Santonic. Æthiops miner. Corallin. Ens Veneris, &c.* in what Forms best please the Patient; after which expel them with proper Medicines. It would be proper under this Paragraph to mention the peculiar Remedies, but that the Brevity of this will not allow of it: For other Live Animals, such as *Leeches anywhere*, they are best kill'd by Salt-water: For the *Ton* and *Dracunculi*, they are not the Produce of our Clime, nor can I stay to instance farther of them.

The next Head I am to mention, is, *Extraneous Bodies plac'd within us, or on the Surface of us*: And altho' I spoke against Indications taken from Procatartick Causes; yet, I must here add, that I then only spoke of the external Procatartick, and not the internal. I am sensible that *Poisons* have a complex Indication; yet, I believe it will be pardonable to omit that Nicety, and speak of 'em all under one Head, and not separately, as I design'd to have done. It is remark'd in general, that they are carried off by that Port they entred at: After which you are to specificate the Antidotes, so that Antimonials, after sufficient washing of the Stomach, are to be precipitated by a little Salt, which effectually curbs any farther Effects from them: *Arsenick* requires *Sal Tartar*; *Mercury Sublimate* alkalines, but more especially (being soluble) in warm Water. A good quantity of that given, washes it off, and takes off all Effects from it. I must add, that great Haste must be made in such Cases; so that Arsenick, after 3 or 4 Hours, is irremediable, as I had the Experience of, in a poor Miscreant, who believing the World was weary of him, took a Dose of this Poison at Nine in the Morning; the Apothecary who sold him it being call'd, desired I would favour him with my Assistance, at One: We gave him Diluents, Oils, and whatever we had near to us, to make him vomit plentifully, which he did; and
having

having view'd narrowly what he threw off, and having not been able to observe any Particles subside; we then gave him Sal-Tartar in Water, and made him drink of it in a plentiful manner, but in vain; for he began to have violent Tremors upon him, and dy'd convulsive at Nine next Morning. Upon Opening him, 'twas observable that the Stomach and Intestines were so tender, that they would hardly bear the Touch without tearing; and the Vomiting and Washing made it plain to us that there was not the Quantity of a Grain of the Arsenick on the Stomach and Intestines; but they were gangren'd in many Places to the breadth of a Shilling, which appear'd the plainlier, because all the *Mucus* was thrown off. There is one Quare to be propos'd; I remember that *Konig*, in his *Regn. Mineral.* says of *Arsenick*, that 'tis soluble in Water; if so, 'tis much this Fellow should not have been cur'd, who, immediately upon taking the Poison, laid himself flat upon his Belly, and drank what he could bear from the River itself. As to the *Bites of Poisonous Animals*, you are oblig'd to scarify, burn, and whatever will call out the Poison, fixt then only on the Surface, and give all the proper Alteratives internally.

Whoever have the Misfortune to have only Share of the Poison evacuated, often suffer for it all their Lives afterwards; an Example of which I remember to have seen in an *Italian Soldier* at a *French University*, who had been bit by a *Tarantula*; every Summer he was seiz'd with a Return of the same Symptoms, as if he had been newly bit; so that in the Year 1693, he sunk down as dead, whenever the Guitarr was not play'd on; and at beginning of the Tune again, he stretch'd himself, and gradually rose, and frisk'd and danc'd after an odd and awkward manner; which, I do assure you, little pleas'd me; and thus he continued for Seven or
Eight

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Eight Days, till a Jaundice appear'd, and clear'd him of his Malady for that Year. As to other extraneous Bodies in the Eyes, Ears, Nose, *Vagina*, and other Parts, I hope the intended Brevity of this Book will plead me an Exemption of farther Trouble on these Particulars: Only I shall note, that Effects of venemous Fumes are here also to be amended; so that we may correct *Mercurial ones*, by fix'd and volatile Salts; those from *Lead*, by a Tincture of *Hædera terrestris*, says Mr. Boyle; those from *Coal-Mines* are prevented by a plentiful Affusion of Water, but internally by Vinegar and Castor, says *Etmuller*, and so of the rest.

As for the *Want of any Member*, there is no Remedy, save some mechanical Inventions for some few Cases, such as Glass-Eyes, Spring-Arms and Legs, unless some *Talicotius* will plead for farther; but where any internal Part is cut, such as a Nerve, there is no Remedy.

Where-ever the *Parts are larger* than naturally they should, where I would be understood to take the Word *large* to denote any Increase of Dimension; in such a Case Stipticks, Ligatures, and such things are made use of: So in a *Mydriasis*, *Forestius* advises Roses, Mint, Spikenard, &c. *Pomphilix accasia*, &c. for Troches; so in the *ῥῆγμα* an Injection of Stipticks are advis'd; internal *Aneurisms*, whether of the Lungs, Neck, Testes, or elsewhere, *Terra Japonica* is commended. In the *Cole longiori*, *Hildanus* commends an Invention which you may see *c. 6. obs. 61*. So in *vagina largiori*, *Nasalia* of Stipticks are of Use to hide a Crime, or add a necessary Condition for Propagation.

The *Teeth* are fil'd *if too long*; and Faults of the Eyes fall under the Consideration of Spectacle-Makers; and Dr. *Musgrave* well observes, that Apoplexies arising from the Vessels of the Head larger than

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than by Nature they should, are help'd by Stip-ticks.

But where *the Parts are less, shorter, tenser, harder, or thicker* than they should by Nature; soft, oily, and emollient Medicines are here requisite; so that the Density of the Membranes of Infants is to be aided by giving internally oily Medicines, (and sometimes the Nails and Knife.) *The Hardness of the Skin* often hinders the full Eruption of the Small-pox, in which Case, whoever will give himself the Trouble to turn over the Antients, will find 'em advising softning Internals and Topicks.

A Hardness of the Veretrum (Cornu instar) is cur'd by Emollients and gentle Discutients in *Lausitan. l. 2. Obs. 106.* *The Crispature of the Lungs in Hereditary Consumptions* is best provided for by oily and smooth Medicines. *The Hardness of the Os uteri internum* is amended by greasie Unguents and emollient Fomentations. *The Constriction of the Glottis* is help'd by an Application of Milk, Yolks of Eggs, and Sugar, according to *Barbette, Anatom. Practic. c. 4.* *The Inflexibility of the Os Coccygis in Old Women*, which much impedes an easy Labour, is, according to *Sylvius, p. 552*, amended by a Suffitus of Roots of Althæa and its Leaves, Mallow-leaves, Tops of Melilot, Fanugreek, and Line-feed in Water. *The Smallness of the Ureters* is assisted, as I have often experienc'd, with emollient Baths, Glysters, Linctus's, and external Unctions; and if the *urinary Passage, or the Orifice at the Sphincter* be less than usual, if these Medicines have not their Effect, then Recourse may be had to *Mayern's* or the *Ægyptian Method*. If *the Parts be so tense that they are us'd to crack*, as it often happens in fissur'd Breasts, or in Women with Child, then oily Medicines are the Advice of *Bonetus* and *Etmuller*. Thus I have given a Sketch of this Head.

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When the *Site or Connexion of the Parts are chang'd*, Reduction is to be attempted by several Methods; so in the *Iliac Passion* the Complication is unt'y'd by Mercury in Substance, or the Bellows, or the Operation; so the *Lordosis* and *Cuphosis* are cur'd, if fresh, by Extension, and as in ordinary Laxations: This being mostly the Province of Surgeons, I shall only add some few, but useful Remarks on the Variety of Births. *In all Postures from the Vertex to the Acromium*, you are to deliver by the Head: *In all Postures from the Acromium to the Feet*, you are to deliver by the Feet. *Whatever the Posture be, if the Funiculus or Placenta are hanging out of the Vagina*, you must deliver by the Feet, unless the Child is fix'd. *The Nose of the Child* must look to the Back of the Laborant. *Wherever the Fetus is to be thrust back into the Uterus, whatever the Posture be, or whatever Part presents*, the *Nates* are to be plac'd above the Head and Breast.

Irritation is what gives the Physician double the Credit to what any other Indicant does; for under this Head fall Vomitings, Coughs, Diarrhoea's, Pains, and many more troublesome Disorders, which are not suppos'd or dreamt of, by the ordinary Herd of the Faculty, to retain to it. So we see that *excessive Hunger* is allay'd by Opiates; so is *Salacity* an Irritation which is most effectually allay'd by Smooths, and at last Opiates. I shall in another Place recount the Reason why the *Turks*, at the Battle of *Levenz*, dy'd *Hastis erectis*. *Convulsions* are not allay'd without Opiates, but they being compounded of many Causes, I may have an Opportunity, in the Close of this Discourse, to mention more of them. So mostly, in this Case, *Opiates* are requir'd, which have different Names given 'em, as the Species of Irritation they are to allay, will allow of: Hence they are called *Anodynes*,
when

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when Pains are to be allay'd ; *Narcoticks*, when some Part is to be benumb'd ; *Paregoricks*, (ab ἀγορεύω, *concionari* & *consolor*, in a Metaphorical Sense ;) *Hypnoticks*, when Sleep is to be their Effects. To expatiate on this Inditant would be too tedious for my present Aim ; and therefore I shall only remark, that some *Irritations being critical*, cannot be supposed to belong to this Paragraph, unless they be unbearable ; such are the Pains of Labour, Pains of the Gout, &c. which require such Things as will promote, instead of allaying them. As to many other Indications arising in the Cure of Irritations, they belonging to other Heads, are not the Consideration of this Remark.

Ulcers, are what require in general *four Indications* ; *Evacuation*, *Mundification*, *Exiccation*, and *Cicatrization* ; and internal Corrigents of the peculiar Acrimony reigning in the Juices : All which are a complex of Causes, and ought to be referr'd to other Heads ; but my Leisure not allowing me to be so nice at present, I believe it sufficient here, to mention some few Examples, to illustrate what I have advanc'd, and so take leave of this *Compound Inditant*. In a *Gonorrhœa virulenta*, we give Purgatives of Cassia, Rheubarb, Cream of Tartar, *Mercurius dulcis*, and such-like, for three or four times ; after which, we use, for a Month or six Weeks, or longer, if occasion require, Balsamicks of Turpentine, G. Guaiac. Bals. Copaiba, Rheubarb, and such-like ; the first deterge and cleanse the Part ; whilst the latter dry the Ulcer : For the latter Intention we often use Injections of *Mercurius dulcis*, Lime-water, Honey of Roses, or the Decoctions of Roses, Sac. Saturn. and Mel Rosar. In *Ulcers of the Kidnies* after due Evacuations, I have found Sydenham's Pills of *Flos Unguentor.* along with ij or iij Grains of *Mercurius dulcis* every Day in Rose-water, effectual. In *Ulcers of the Bladder*, Groenvelt's

vell's Method of *Cantharides* deterges; after which *Terebinthinates*, and gentle Medicines of Coral, Amber, and such Exiccants, are advisable. In *Venerreal Ulcers of the Mouth* (where the Palate is not Carious) after proper Purgatives, either touching 'em with *Mercurial Water*, or a Suffitus of Cinnabar, to dry them, are useful. I have known a Salivation rais'd by a Suffitus with Cinnabar, cure an Ulcer of the Uterus. In *Fissures of the Breasts*, Minium and Nut-Oil was made a Secret of by a Midwife I communicated it to. In an Ulcer of the Intestines, *Terebinthinates* are in use. As to *Abscesses*, after they are open'd, you treat 'em as common Ulcers, tho' the condition of the Parts as to Moisture, oftentimes makes us change our Mundificants for Exiccants; all *Critical Tumors* being an evacuation of Venenous Particles, are to be promoted to break; and if they lie out of our Road to get any thing apply'd to 'em, as they do in the Body of the Uterus, we however can treat 'em with a plentiful Diet, and Sternutatories conduce much to this End. *Excoriations*, are healed by Exiccants only; so those of the *Scrotum*, *Forestus*, L. 7. obs. 39. in *Scholio*, Cures by Unguent de Ceruss. and Lithargyr. External Ulcers are treated in the same manner.

Wounds, have a double Indication; for either they may immediately be united by the Suture, or the dry Stitch and an Emplaster notch'd for that End; or by Deterfives, Mundificants, Sarcoticks and Epuloticks: *Discreet Surgeons* chuse the latter Method, not because it's safer only, but for other Reasons best known to the Operators. The Medicines made use of for these Ends, being repeated in every Author *ad Nauseam*, I shall only hint at a Wound of a *Lymphatick*, which ordinarily turns Sinuous, as was evident to me in one I was call'd to; every Dressing, the Surgeon took out a Spoonful or two of *Felly*; but at last with great Care and many Operations, it was

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was heal'd in a quarter of a Year. For any Case in this kind, G. Lacc. and Moss of a Man's Skull mix'd and thrown in, are look'd on as a Secret.

Lastly, It happens there is a *Scurffiness and Roughness of the Parts*, which after due Evacuations, (which are to be proportioned according to the degree of Obstinacy) and the application of some gentle Stipticks, Vitriol, Allom, Juice of Limons, Litharge, Vinegar, Lapathum acutum, and Mercurials, &c. externally, are carry'd off.

Having run through all the *vitia of the Fluids and Solids*, I can't in Justice omit one Thing, which yet I believe very rare, and that is *Fascination*; 'tis according to *Zacutus Lusitanus*, L. 3. Obs. 134. call'd *Morbus trans Naturam*: Whatever my Opinion is on this Affair, I can only add two Things, and that is, should I ever find any one performing Actions beyond the reach of Nature, either as to the Affections of the Body or Soul, I must conclude 'em under the Power of something beyond the reach of Nature: So that when the *ἀφιλοσοφοί*, or the *ἀμύστοι* talk Wisely, and discourse Nervously, or when the *ἀκινητοί* frisk and move themselves beyond the ordinary Actions of Mankind, we may conclude 'em (and then only) under a Fascination; but what Medicine has to do in this Affair, I frankly confess, I have never learn'd: If indeed the Effects produc'd by such a Case, are the alteration of the Juices, I believe Drugs may then produce great and good Effects; but when the *Fancy is Obsess'd*, 'tis Folly to stretch the Medical Art beyond its Limits; and therefore *Natural Religion* obliging us to acknowledge a Supreme Being, we must necessarily submit to own the Permissions of that Being give rise to surprizing *Phænomena*, not at all falling under the consideration of Art, and therefore necessarily the Province of another and very different *Species of Jurisdiction*, and (to be sincere) under the Direction

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Direction of the Divine Ministry; where the Hand of Man is shortned, and the Glory of the Highest is exalted: In this we do but follow the Steps made in Scripture, where the *Δαίμωνιακός* was not Cur'd, but by the Hand of our Blessed Saviour. I am not ignorant the Divines say it was an Epileptick Person; yet we must believe the Expression, and Justice can be done, by believing it rais'd by the Devil.

Thus have I in a short Sketch, given you an imperfect Index of Indicants; to which, if I should add the *Εἰσὸς Medicorum*, I shall have given sufficient Proofs of the Usefulness of this Method, beyond all the imaginary and fancy'd ones of the *Students of Physick and Astrology*: But as my Design is no other than to whet the Reader to a further Enquiry, it must only be expected that I shall just hint at the Particulars I reserve for a fitter Season; where what I have advanc'd, shall be made evident to Demonstration, through the whole Body of Practice.

All Cures, says *Hippocrates*, are done by Addition and Subtraction; and that *Contrariety* is the general Basis of the Art of Physick: and this the same *Divine Coan* terms *ἐναντιώσις*, which he understands as well in Diet as Drugs, *Aphor. 22. Sect. 2.* and *L. Epid. 6. Sect. 8. §. 46.* This Addition of something wanting; and Subtraction of what is too much, is an Argument that the Causes are to be taken away in the Cure of Diseases. Let us take a short View then of the Causes that are to direct us in our Course.

There are three Causes; first the *External Evident*, or *Procatartick* (call'd also the *πρόκαρτερον*); which having left nothing fix'd upon us, only requires avoiding of 'em; so in a *furor uterinus*, we must take care that the Fire be not fed by the Presence of what is the Subject of the Appetite. for *ἐκ τῆς ἐρεῖας γινέσθαι τὸ ἐρεῖαν*. So in Pestilential Cases, we must a-

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void

void the occasion; *cito, diu, tardè, cundo, morando, redeundo*. Having shew'd above, how little this Cause is to be regarded in guiding us how to Cure, I shall proceed to the rest.

The next Causes are the *Antecedent*, by which I mean the deprav'd Humours in the Body, endow'd with a Power upon any occasion given to produce very dangerous Symptoms; and such is the Viscid in a Pleurisy; such are Bilious Humours in a Colick; such are Salt Humours in a Consumption. The *Continent*, is the *Antecedent acting*; so the Salt Humours fix'd in the Lungs, are this Cause; *Pus* in an Abscess; Water in the Cavities in Dropsies; *Venenum* lodging in the Stomach; and Urine in the Bladder in a true and genuine Ischury; all these, I say, are *Continent Causes*, or in other Terms, *the Immediate Cause*.

In general then, Diseases must be cur'd by remedying the Causes in such order as they began, unless some great Reason oblige us to alter this Method: The Internal fix'd Causes are remedy'd by *Evacuation*, (under which Head I reckon *Translation*) and *Alteration*: *Evacuations* are Emeticks, Catharticks, Diaphoreticks, Diureticks, &c. *Translations* are all the Revulsions we make use of. *Alteratives* are of two sorts; but both being contrary to the Cause, I need not now mention their Difference: But it sometimes happens that Diseases are irremediable; and yet we are, for the Comfort of the Sick, oblig'd to Patch for a while, by remedying such Symptoms as wou'd destroy the Patient of themselves: So in an incurable suppression of the *Menses* from a Tumor, we are, according to *Sennertus. L. 3. C. 3.* oblig'd frequently to Bleed, to prevent the real or metaphorical Plenitude in the Blood, from whence many dreadful Symptoms arise. When I speak of Alteratives, I would not be understood to confine myself to the Internal ones only, but wou'd have my Views extended to Topicks. too.

This

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This general Order holds good where the Symptoms supervening are gentle and slight, for then the taking away the Antecedent Cause, relieves, nay cures; but when the Symptoms, proceeding from the immediate Cause, are Violent, then are we oblig'd to have regard to these Symptoms by remedying their Causes; thus *Agonistical Crises* are not to be suppress'd, tho' not promoted, for that they often Cure, or pave the way for it; but we are often oblig'd to have regard to the Symptoms when Violent, even before we can remedy the precedent Causes. So that in an *Iliack Passion*, before the Obstruction of the *Intestinal Faeces* can be remov'd, we are often oblig'd to amend the Vomiting by allaying its immediate Cause (*viz.* the *Irritation*.) What I here say of one immediate Cause, I would be alike understood if there be more, as in an *Hemoptoe* from acrimonious Humours, the *Acrimony* and the *Meatus apertus*, are two immediate Causes or Effects (for I have hinted at my Reasons for this above) the first of which require smooth and obtunding Medicines, the latter Strip-ticks and Agglutinants. And as an immediate Cause requires our Care sometimes even to the neglecting its Original; so one immediate Cause sometimes over-ballances another in like manner: From the imminent Danger of which, we are to steer our Course.

I should, to the general Method, have added the measures us'd in *Crises*, for that they appertain to Evacuation, or Translation: They are to be promoted so long as they are Critical only (then *Liberâ expurgatione ἀπομάτωσ quiescunt*) for when they cease to be so, they deservedly lose that Denomination, and are then Symptomatical and remediable by proper Methods nam'd above: But as to the particular Rules they are to be manag'd by, also as for mix'd ones, and as to the several *Metastases*,
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whether

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whether Salutory or not, it cannot here be expected I should enter into a Detail of 'em.

So far have I hinted at the Ἐνδείκνυμένα; I have only one Word or two to add about the Συνενδείκνυμένα, and the Ἀντενδείκνυμένα, and I shall close my Discourse.

Causes, we see (for I mention nothing of Diseases, or the Reasons of those Causes) sometimes Concomitate and Coindicate; so that I have seen in a certain Lord a *Tertian Colick from an imprudent suppression of the Gout*; the Causes I look'd upon to stand thus; by an application of cold Water to the pained Part the Humours were repell'd and retain'd in the Blood, part of which *ranging there*, produc'd this Ague; and another Parcel of it *fix'd on the Intestines* produc'd the Pain: This I take to be the Ὅτι, (as for the Διότι, I leave it to trifling Enquirers) of the Malady. Let me now proceed according to Methods I come from mentioning: The *stuf-fing of the Blood with an impure and bilious Plethora*, requir'd Evacuations: The *Infarctus of the Intestines with Bile*, also coindicated Evacuation: The *Shifting and Period*, requir'd the Bark; the Pain requir'd Opiates: And Lastly, *The Gout's lurking in the Body*, requir'd all the convenient Stimulants to invite it to its proper Station. I look'd upon these Heads to direct me in my Course I was to take, and having follow'd 'em, I accordingly succeeded: Upon consulting Dr. Radclyffe on the Case, tho' I recited him every Particular, yet his Answer was, that we should forbear any manner of Evacuations; but the lucky distance of the Place, made it only evident I should have endanger'd my Patient by such a Method as he was pleas'd to order; but *Quandoque bonus dormitat Homerus*, and his Civil Treatment of me whilst alive, will oblige me to believe, that 'tis as hard to take a Case as a Face, at a distance.

When

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When Causes Clash with each other, and there is a Contrariety in 'em; I shall only mention, 1st. That they are sometimes so far on a Level, as that you must take 'em both off equally: So in a Palsy, and the immoderate Flux of the *Menses*; If your Intention is to Cure the Palsy, you increase the Flux; if, on the other hand, you Cure the *Menses*, you render the Palsy irremediable; in such a Case you must blend your Medicines according to the most exigence: I remember *Schmidi* mentions the Bark of *Seville* Oranges unripe, boil'd in Water, to curb the *Menses*; (in which, *Dr. Hamilton* follows him and *Etmuller*); but this Fruit being also aromack, is an Aperient, and did sometimes alone answer the End in this Case mention'd: So careful has the Divine Providence been over us, as to blend contrary Qualities in one Plant to contrast with such contrary Effects in our *Bodies*.

2^{dly}. Whenever they are Contrary, and there is any Excess on either side; if *this Excess be small*, we must have regard to the most urgent, and to that which Cures the most urgent, tho' they suffer a little by it; however, having some Eye to the contrary Cause. So I remember to have been call'd to a Lady who had a Dropsy in the *Abdomen*, which was of Sixteen Years standing, or more; she was on a sudden seiz'd with a violent Fit of the Stone; having pass'd a large one, and suffering more since the delivery of it than before, with Syncope's, and cold Sweats, she had reason to believe another was also passing. I had not much to say to that Head; but argu'd that she was yet more dangerously held than she imagin'd, and that another *species* of Disease had seiz'd the Part, which was a beginning Inflammation of that Kidney, and that without Bleeding, it was impossible to relieve her; which she yielded not to for an Hour; upon this Head, that she had a Dropsy upon her: But having perswaded her of the imme-

diate Hazard she was under from the Inflammation, and the little Damage I should do her by so small a quantity of Blood drawn off, she consented; and the Apothecary had not drawn off two Ounces till she cry'd aloud she was easy; and by four Ounces taking away in all, and keeping her from heating Diet and Cordials, she recover'd perfectly.

3dly. But where the Excess on one side is so apparent, that we must, by indulging 'em in it, kill 'em; 'tis reasonable to give Eye to the most urgent only, and which acts as a Cause, and totally neglect the one. So in a *Lues Venerea* and a *Hætick* (and even Consumptive Cough, where there is no Ulcer) the curing the Hætick avails nothing to the curing the *Lues*, which yet ranges and re-produces the same dire Effects; all which I have taken off by a gentle Salivation, without any regard had to the Hætick. So in an *Hæmoptoe*, where there is danger of *Suffocation*; in this case alone, it is lawful to cause an Expectoration of the Blood, tho' the Suffocation be *deuteros, agens*, yet it is the most urgent; and in this we follow *Galen's Law*, *ut Præcedat sanatio ejus quod Causa est, vel magis urget, vel sine quo alterum tolli requit.*

Thus have I, in as short a manner as I could, made it plain, that the Heads I mention are the only *Bases* to proceed on; and that whoever will range beyond these Bounds, is bewilder'd and plung'd in all the Difficulties that can befall a misled Traveller: Whoever has the Fortune to know what Cause does affect us, many of which are evident to Sense, is the likeliest Person to serve the Republick in his way; but shall conclude, that Prudence must be the Portion to distinguish the Physician from the Empirick, since *La vera Regola, è saper romper le Regole à Tempo & Luogo.*

Thus

Thus have I with some unwillingness, trod a Path for the good of my Neighbours, which puzzles the Heads of the Thinking World, and yet is in it self Easy and Conceivable to the meanest Capacities: Why is it otherwise that the most Learned are not the Best and Successful Physicians, but that they busy themselves in many parts of Literature little, if at all, to their purpose? Whose good Parts, if employ'd in the advancement of their own Arts, would be sufficient to build a Profession, much more to give Additions to one long since begun. But having sufficiently tir'd myself, I cannot but believe I shall give my Reader a Distast to add to what I have already advanc'd, especially since I resolve, some time or other, to Publish the *Practical Observations*, of which these are only an Abridgment.





Criticon Febrium:
 O R, A
Critical E S S A Y
 O N
F E V E R S.

C H A P. I.
Of FEVERS in general.



THE design'd Brevity of this Tract cannot be supposed to allow me to expatiate upon the usual Divisions of *Fevers*: In which I fear much Time has often been spent to little Purpose; since it will appear that these Names brought no new Methods of Cure along with them, but left many Doubts upon the Practitioners; and those, when they come to be seriously weighed, very trifling, and such as prove an Amusement to the *Tyro's*, but are nauseous to the Grave and Thinking Part of the Profession. 'Tis an Undertaking which has employed the best Heads of all Ages: And I hope the Reader will do
 me

me the Favour to excuse the Attempt by so barren a Capacity as mine is, for the sake of having wished well. I am not for coining fine fram'd *Hypotheses*, nor for advancing any Thing I dare not rely on as Fact, and such as has been the Result of a patient Series of Observation for many Years; and, if I should have added, a successful Practice, I believe I should not want the Suffrages of such as I have had the Honour to serve.

An Unusual or Preternatural Heat along with a Frequency and Quickness of Pulse, detect a Fever; though as to the immediate Causes of one, all are not agreed, as will appear anon, each liking to prate in a Jargon of his own. Α τὸ Θεῖον was the Language of *Hippocrates*; and 'twas a Frankness our latter Hypothetical Gentlemen have not sufficiently acquiesc'd in; where, however, the Reasons given in have little more in them, than also calling it a Divine Cause. This frank Manner would have sav'd the Practitioner much useless Enquiry after the Διότι of Fevers; and yet he would have been far from being left to Chance to have founded his Indications on; since in the Discovery of the Erring Motions of the Fluids he has his Senses to rely on, to descry such Symptoms as give Rise to the different Procedures, which is the Ὅτι we look for.

The first *Criterion* then by which we discover any Feverish Disposition, is a Frequency of Pulse; and therefore the Motion of the Blood is supposed to be accelerated in Proportion to the Frequency of the Pulsation. However, the Frequency of the Pulse alone does not constitute a Fever, till it degenerate also into a Celerity, which naturally happens when the Pulse rises to high Numbers. To ascertain the Nature of a Frequency and Quickness, and their Difference, the *Space*, the *latus*, and the *Interval* of the Pulse are to be well remark'd. By the *Space*, we judge of the Strengths of our *Laborant*:
By

By the *Itus*, we pass a Judgment of the Modality of the Stroke or Pulsation; but in our present Case, whether it make any Demurr on the Finger, which denominates it a slow Pulse, or whether, on the contrary, it immediately recedes in a *Systole*, which gives it the Appellation of a quick Pulse; And lastly, by the *Interval*, we measure the musical Time of its Return, which if small, 'tis a frequent Pulse. Hence Frequency and Celerity are easily distinguish'd in Notion, but not often too well in Practice.

We may, for Curiosity's sake, see below, whether some extraneous and irritating Principles in the Blood don't give Rise to this Frequency and Celerity, as also the unusual Heat, and how well-grounded it may be to conclude from hence, that the Circulation is hasten'd in Proportion to the *Number of Impulses*, as is a common Observation among such as have considered the Laws of Hydrostaticks, abstracting from Resistances, which are not the Business of this Head.

CHAP. II.

The various Sentiments about the immediate Causes of the Heat, and the Frequency and Celerity of the Pulse in Fevers.

THE Ancients suppose a *Putrefaction* of some Parts of the Mass; and that these appear in the Urine of Persons in a *Crisis*, and pass off by the Bladder and the Pores of the Skin in critical Sweats, and so determine the Struggle between Nature and the Disease by the Load extirpated.

Others

Others believe it consists in a preternatural Fermentation; and that an *'Αμείψια* of its Principles occasions it; and that the Effects of this Fermentation are Dissolution or Coagulation.

Some place the Cause in a *Turbatâ sanguinis Mixture*; for they find the Urine generally is muddy before Concoction. And when it begins to drop a Sediment, there is Hopes of a Recovery; this being a Sign that Concoction is begun, and that, if we can manage well, Affairs may succeed.

Many believe an Acrimony of the Juices to give Rise to a Fever.

A late Gentleman has advanc'd, That the Breach of the Globules occasions the Spilling of a venenous Air into the Mass, and so disturbs its Order. But this being the Phantom of a luxuriant Brain, 'tis the Subject of Ridicule.

Many more are the Opinions of Authors, which the Reader, if he delights in such Trifles, may take the Trouble to consult at his Leisure. But none have been so lucky as the Learned *Bellini*, whose Sentiments are confirmed by Practice: For the Pulse is not vitiated but from the Vitiation of the Blood; that the Blood offends in its Quantity, its Motion, or its Quality, in some or all of these.

The severest Mathematician never will or can deny, that there are some peculiar Affections of Matter in the Mass of Blood, which irritate more or less, and create or resist Cohæsion. The various Qualities the Secretions are stock'd with, are but the Consequence of a material Pre-existence of them in the Mass. What other are the odd *Phænomena* upon Mixtures, and their Effects, but the Result of these Qualities: How otherwise happens it, that we have known the Urine of a convulsed Person, burn the Shirt almost as readily as an acid Spirit? Many Instances are needless upon so evident a Case; nay, I shall add that these very Qualities are the
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constituent Principles of Frequency in the Pulse; and that their *Valores* encrease or decrease, as they are more or less active.

Among one of the most noted Qualities in the Blood, is its Rarefactive Power: For as all Fluids are more or less porous, and consequently contain less or more Matter in their Bulks; so may they be rarefied in a *Ratio* to their *Densities*. But the Blood being compounded of Globules including an Aërial Substance, must in the first Place only touch in twelve Points, and consequently have great Vacancies interspers'd. Now if the Air's Pressure be diminish'd by Heat, or some other Accident, the Air without these Globules, and that which they contain, must expand reciprocally to the Rarefaction of this External Air, till they arrive to an *Æquilibrium*, which often happens in our Blood to a Rupture of the Vessels: But also in our Blood there are certain Principles of Heat discoverable; for by the Torture of the Fire we find a large Quantity of an Igneous Substance, which our Chymists are pleas'd to term *Phosphorus*: And since nothing is required to be mingled with it that may afford this Matter, therefore this Inflammable and Burning *Phosphorus* is materially pre-existent in the Mass. And hence in Fevers we become hotter, because there may be a larger Quantity of this Matter in the Blood. For thus we only follow the Footsteps of the most Ingenious and Learned Sir *Isaac Newton*, who, accounting for the Effects produc'd by the Sun, supposes *it a great Body of Earth heated to a certain Period, and that all these Effects of Heat depend on its Fire*. I cannot, by a Parity of Reason, see a readier Way to explain Heat in our Blood, than to suppose (what is but Truth) that it contains Fire in it: What other is it than this Fire that causes the *Thermometer* to rise to the same Height, when applied to the Blood or Hand, as if it were Boiling

Boiling Water? And if the Authority of the *Hebrews* or *Hippocrates* will add any Force to the Argument, the first call it קרחה & רשם רלהח all which signify Heat and Fire; and *Hippocrates* calls in *Morb. Epidemic. Febris vehementissima*, Πύρ, or Fire in *agroto secundo, nomine Sileno*.

It may be objected, that the serous Parts in the Blood would quite extinguish this *Phosphorus*, and consequently our Heat. If it be scanty, it does in effect often do so. Again, if we supply the *Decumbents* unwarily in Fevers with too abundant a Quantity of watry Liquors, we find that, in effect, it often does so.

But I see no Contradiction, to suppose that it may live in a humid, as well as the frigorifick Mixtures can even freeze Liquors into Ice upon the very Fire; or as well as Camphire Flame under Water; as does Gun-powder blended with Charcoal, Sulphur, and Salt-petre. What wonder then, if the Blood being a Fluid, being capable of Rarefaction, and having an innate Principle of Heat in it, that so various and stupendous Effects are produced by it? What Wonder if the Moments encrease or diminish in a Proportion to the Degrees of the Heat and Rarefaction?

Having said enough to convince us that the Mass of Blood is stock'd with Qualities of very various Natures, the Thread of my Discourse leads me to assert, with the aforesaid Ingenious and Learned *Bellini*, that there is nothing farther contained in the Blood, save its different Quantities of Matter, by which it fills the Vessels to a certain Pitch, along with its Degrees of Velocity, which are but the Result of the more or less active Qualities contained in the Blood: And hence has the admirable *Newton* coin'd standing Laws to measure the Moments or Aggregate of Motion in moving Bodies: From him 'tis evident that the Degree of Celerity

is but a Quotient of the Moment divided by the Quantity of Blood, which all know. The Increase of the Moment will hasten the Pulsations; for if 150 lb. of Blood and Juices (which Keil supposes to be in a Body of 200 lb. Weight) be the Quantity of Matter in the Vessels, and the Degree of Celerity is equal to 2, then the Moment is 300; if only equal to 1, then 'tis only 150. Now suppose the Moment 150 give 70 Pulsations in one first Minute, then the Moment 300 will give 140, which is called the *Coacervatus*; and I have found it in Persons dying in a Fever; so that doubled Moments give doubled Pulsations. But whether 'tis possible for a Physician to discover by the Pulse that the Fever proceeds from the Addition of Matter, as from Drinking, or from the vitiated Qualities (which, as I've said above, are what give Rise to the different Velocities) is not easily determinable. The Learned *Bellini* hints, that the *Magnitude of the Pulse* arises from the Quantity, nay is reciprocal to it, when he tells us that *Momenta dissilitio-num sunt reciproce ut resistentiae à sanguine*; from whence it might justly be inferr'd, that *Inflammatory Fevers*, from catching Cold (where the Quantity is encreas'd by the *Perspirabile* obstructed) or those from Surfeits (where we are sure of vast Encrease over and above the exotic Qualities ingested) may claim the Title of strong and full Pulses, if this Gentleman make the Advance upon Experience. I may farther add, that as the Motion of the Blood is compounded of a direct and a lateral one (as all the Fluids,) it may be own'd that the Velocity wou'd drive the Blood to the same Space forward; but the Quantity would not only drive it so far forward, but also farther outwards, and make the Vessels more turgid: Which seems agreeable to *Borelli's* 60th Proposition in his *OEconom. Animal.* p. 942. If these were Facts, the Discovery would be of use

to direct us in the Species of Evacuation with a seeming Dexterity: But 'tis much safer to stoop to Enquiries to assist us in judging, in which, Caution is a pardonable Fault; since I cannot practically assure you, whether the bare encrease of the Velocity of the Blood's Motion may not rarefy its Particles, and fill each Section of the Vessels in an equal Degree, as if the Quantity had been really added.

From all that is said, this Corollary may be infer'd, that the Mass of Blood contains some unusual mixture of extraneous Qualities and Matter, which makes its Motions irregular, and keeps it out of Order, till it is separated from it. 'Tis this which gives Rise to all the Symptoms that, in Fevers, so grievously afflict our OEconomy. This Matter is contain'd in the Sediment, and is dissoluble in the Urine; for when 'tis newly made 'tis transparent, and after Secession may be made to reunite to it by any adventitious Heat, so the Degree be of a certain Standard; which is Conviction that a certain Degree of Warmth in human Bodies is requisite to a Separation (of which Experience is the properest Judge, and may in part be guess'd at from ill Symptoms supervening over and above the Fever; and this is the best Standard of the Fever's Excess of Heat and Slowness) What hence may be deduced, is, that these Contents that take what Place their relative Gravity allots them, may either be saline or sulphureous Bodies, or a Combination of both: Hence it is that Fevers which are accompanied with a violent Heat and strong Pulse dissolve it too much, and the rapid Motions hinder its Secession: And on the other hand, those with little Heat and weak Pulses argue this Matter too gross and viscid to pass the Emunctories, and the Spirits are too few for the Quantity; and so it falls out, that neither way the Ferment precipitates.

I shall

I shall hereafter have leisure to shew, how Symptoms arising from the different Causes, give very different Views in the Cure, and that neither a Fever, nor its Symptoms, are to be handled by such illiterate Persons, who treat the Decumbent in a Road of trifling or dangerous Practice: And I hope to make it appear anon, that Symptoms are as the Fevers they proceed from; (either from too violent or too weak a Motion in the Blood) forcing the morbid Particles upon a Part, or by accumulating 'em on the Organs; for when they are Viscid, their Trajection must be difficult. But when I speak of too slow or too weak a Motion, I don't thereby understand that the Motion of the Blood is slower than in Health; for I have hinted above, that the slowest Circulation in a Fever, is almost $\frac{1}{4}$ d quicker than in a healthful Constitution; but 'tis meant with respect to the Morbid Particles, which by this Motion, as failing of the just Standard, can never be excluded from the Mass.

C H A P. III.

Of the two Generical Divisions of Fevers, and the Differences of them; with some farther Proofs of their immediate Causes.

MAny are the Specifick Divisions of Fevers, which I shall not stay to Dilate on now, but shall proceed to shew, that all Fevers that afflict us, are no farther usefully heeded, than as they are one of these two: And all the Cures of Fevers would be of no use, if we did not regard these Divisions.

If we are seiz'd with a Fever, and if our Strengths be sufficient, and the Heat be of a just Standard, the morbid Particles will be gradually attenuated, so as

to pass the proper Emunctories of Separation in a due Season, and the Fever will cease in a longer or shorter time: But if the Blood be in any extraordinary Commotion, or be less active and warm than this Standard, then we either burn and scorch with *Causi*, or *ardent Fevers*, or we are afflicted with *Hectical Fevers*, or such as are much below the Standard for Separation; and these Extremes are the only occasion of all the supervening Symptoms, if we add some Qualities conjoin'd, from whence these Two Kinds have their *Esse*.

If the fiery and acrimonious Particles in the Mass be plentiful, in regard to the Humid ones, the Blood will be hotter, and the *Ardent Kind* will hence arise; but if these Particles be overstock'd with Serous and Humid ones, then the Fever is of the *Slow* and *Hectick Kind*. To give a perfect Judgment, how far they deviate from the Natural Heat, can no otherwise be demonstrably determin'd, than by the Person's having often before such a seizure try'd with a *Thermometer* the Standard of their Natural Warmth; but this not being as yet practis'd (which yet I look upon to be a Fault) we can only keep the Patients at such a Heat as that all Symptoms abate or quite vanish; only that of the Heat, and Celerity of the Pulse.

This is the most useful Division of Fevers for Practice, and ought to be the first Question enquir'd after; since it is the most General Guide in all our Indications, and leads us to know, whether we must Evacuate, and in what manner; as also what sort of Alteratives are convenient, what dangerous.

Under each of these Species are contain'd the *Intermittent*, *Remittent*, and *Continual*; which last is subdivided into the *Malignant*, *Pestilential*, and *Pestis*; or as some please to term 'em, *maligna*, *malignior*, *malignissima*, as only differing in Degrees.

Bellini reckons, that some viscid Particles sticking in the Capillaries, produce a Fit, thus; When these *Particula frigoris* fix in the extremities of the Arteries, then arises an impediment to Motion, whence arises a sense of Cold: But when this Obstacle is shook off by the moment of the Liquids pressing on from the Heart, Heat follows, and lastly, Sweats, which take off the Fit or Fever. But what may produce these *Particula frigoris* (or *viscido-liquida*, as he terms them) is not so evident; however, in *Act. Philosophic. Lond. N° 150.* by a mixture of *Sp. Aeris virid.* and *sang. human.* Dr. *Slare* produc'd so much Cold, as caus'd the Spirit of Wine in the *Thermometer* to settle, in Summer, almost to the degree of Freezing; and this he thinks to be a pretty good Method to solve the *Phænomena* of the Cold Fits.

I am not ignorant, that some later Authors deny any Acid in the Blood, tho' tortur'd by the severest Tryals of the Fire, and consequently will grant no Effects in the Blood from them: But first, *Vieussen's* Experiment afforded a Dram of Acid more than the Bole cou'd have done; and every one knows, how capable an Acid Spirit is to produce stupendous Effects in the Mass. 2dly. A *Saline Tact* is not made without a mixture of some Earthy or *Alcaline* Body; and a considerable Quantity is requir'd of this *Acid*, to make it tast *Salt*; so as Spirit of Salt 3j to Sp. of Hart's-horn 3ij. make a *Muriatick Tact*, according to *Floyer*: Also Urine, as an Acid Salt, corrects the Bitterness of *Coloquintida*: And Mr. *Boyle* præcipitated with a Solution of the fix'd Salt of Blood, in Water, a Solution of Fine Silver in *Aqua Fortis*; which is an Argument of its being of the Nature of Sea-Salt. Mr. *Boyle* owns the same sort of Salt in the Blood: The *Bilis atra* makes Syrup of Violets Red; and Rheumatick Serum of the Blood, makes the Syrup Green; therefore the Blood is stock'd

with Salts of different Kinds. *3dly.* Many of the secreted Humours tast very acid, and produce all the Changes that Acids do, when they are blended with such Things as convince us of an Acid in a Mixture. From these few Arguments, I hope we will not deny our Senses, the only *Criteria* we have to judge, of Medical Affairs, by. Hence then, it may safely be concluded, that Acids are materially existent in the Mass: As to our being supply'd with 'em, we can be at no loss to know; nor, by consequence, how our Blood can be Coagulated by 'em, so as to cause this Sense of Cold in *Horrors*.

Another Difficulty yet remains; which is, Why we should grow Cold only at such certain Intervals and Distances, so regular, as if we were a piece of *Machinerie*? *Willis* looks upon a certain Quantity of the deprav'd Juices to be necessary to produce the Paroxysms; and this he proves from the possibility of hastning or retarding the Fits, by Over-feeding, or Fasting. I shall not stay to reckon up the various Opinions on this Head, but shall frankly deliver my own Thoughts.

Experience convinces us, that Fevers are not of equal Duration; And consequently the Matter which passes off Critically in the different Individuals, cannot be capable of equal Attenuation in equal Times, some requiring Four Days, others Ten, and others Twenty Days, or more, before the Matter be fully ripen'd, or the Fever come to its Critical Period: This holds true in Continual Fevers: And since Agues are but repeated Fevers, we may conclude the Blood's mixture so very *Heterogeneous* as to contain several Quantities of this Matter, each of which has very different degrees of Cohasion, altho' the same Species of Matter; one Parcel of which is already fit for Exclusion; another, not till to Morrow at the same time, or longer. Hence the exactness of Turns, and the the due distance of Fits; hence also *Tertians* are

are often chang'd into Quotidians, and *vice versa*. Hence it is we often have seen six or seven Fits, and no more; hence also its longer Duration from a greater Quantity of these unequal Cohasions, that require exactly so many Circulations before their Maturation; so that if we suppose a Person seiz'd with a Tertian, and that the Quantities of Matter be express'd in the following Letters, *viz. a, b, c, d, e, f, g.* let us suppose the particle *a* to begin on *Monday*, then the particle *g* will produce a Fit on the *Saturday* Se'nnight after: If they are cur'd at *g*, then *g* has requir'd 15 Days Maturation, and therefore must *a* too; hence it is we are often for some Days disordered before Fevers and Agues.

Having answer'd this Question, I shall proceed to shew you how Fevers differ among themselves in Degrees only.

An Intermitting Fever, (whether a Quotidian, Tertian, Quartan, or any other) begins with a Coldness seizing on the Region of the Loins, along with Horrors; the Nails grow blew, the Head aches with gravative or tensive Pains, the Pulse is slow and oppress'd, and the Urine is clear without Sediment: In the middle of it, comes on a troublesome Heat; various and irresistible Fancies infest us, the Pulse grows quick and strong, the Urine is reddish; Thirst and many other Symptoms arise. When the Fit declines, the Pulse becomes undose and stronger, the Urine settles, they sweat plentifully, all the Symptoms abate, and at last an *'Απυρεξία* succeeds; and then too, the Appetite returns, and we are now no farther in a Fever, till the Return of the Paroxysm.

A Remitting Fever also begins with an *Algor* and Horror, after which they grow hot, with a quick and frequent Pulse, various Symptoms come on; at the decline of the Fit the Symptoms abate, the Heat lessens, but never quite leaves us till the last Fit;

the Urine settles, the Pulse grows milder, and they sweat: And thus several partial Attempts are made, till the Grand Decline.

A *Malignant Fever* begins too with a Rigor, if of the Heſtick kind; but a Horror, if of the Ardent kind; after which, from the beginning of the Fever to the total decline of it, (for I here abſtract from conſidering it, as turning Remittent or Intermittent before it ends;) 'tis equable, and without any Paroxyſms; the Urine is clear or ſtrawy, the Tongue dry, brown, or black, with the *Aphthæ*; and the Spirits fail.

'Tis then plain, that all Fevers begin firſt with *Algors*, *Rigors*, or *Horrors*; after which, come on afflicting Heats along with a train of Symptoms: And at the decline, Sweats or ſome Evacuation of equal Force to them, which abate the Fever or quite take it off. The Difference then is only that in Agues the *Horror*, *Heat*, and *Sweat*, terminate in few Hours in a perfect Calm, 'till the next Return. In *Remittents* the *Horrors* are only at the beginning; the *Heat* is conſtant, but not equable; the Fits terminate in *Sweats*, ſo partial as only to abate, not extinguish the Fever till the next Return; and thus it continues decreasing till the Grand critical Evacuation. In the *Malignant*, the *Algor* is not very remarkable: The *Heat* continues equable many Days; and what Sweats ſupervene at firſt, are ſometimes the Effect of the ill Regimen; but thoſe *Sweats* that come upon a digeſted Urine, after the State, are deciding, and terminate the Fever. The *Algors* are the Arguments of ſick'ning Nature; the *Heats* and Symptomatical *Sweats*, of her Struggle; and the *critical Sweats*, of her Victory.

From what has been ſaid above, and from what appears, it may be concluded, if the Quantity of Matter or its Qualities (from whence ariſe the different

rent Degree's of Velocities) were always the same, we never should be affected but with one sort of Fever; but as they vary infinitely, so do their Effects, so do Fevers.

In the beginning then of all these Fevers, the Principles that constitute them seem to be as yet in the Oar; and the Blood is so obtunded by this Mass (and the Pulse observes the Motion of the Blood) that the irritative Particles are not extricated but by reiterated Circulations; and then the Mass begins to be more open in its Texture; then the Heart begins to be vellicated, and the Pulse in Proportion grows quicker and stronger; the Skin grows hotter, (but much more so in the ardent than in the hectick kind;) and at last (all at once, or by degrees,) whatever is noxious begins to be thrown off, and to be expell'd through some Emissaries, and then the Fever, of what Denomination soever, abates or ceases. The Matter and Qualities of Blood which make an Ague, must be different to these that constitute a Remittent Fever; and both must infinitely vary from what gives rise to Continual ones: But as it has been proved that nothing but Quantity, Motion, and Quality can give rise to any of these; 'tis consequential that their productive Principles only differ in Degrees.

Fevers then are properly divided into Ardent and Hectical, and they into Intermittents, Remittents, and Continual; (which are either Malignant, Pestilential, or a *Pestis*.) There are also Subdivisions of Fevers, as Hecticks seem referrible to the Remittent kind: And some may properly enough be term'd the *Neutral*, for they may belong to any of the Species, and they frequently do, (such are the Measles, Small-pox, Rash, Scarlet, &c.) for sometimes they become Epidemical and Pestilential, as they have been for these five Years; and other Years, are left to the Care of the *Nutricula*.

These Fevers are known frequently to change Hands with each other: So that what to Day is Continual, to Morrow may turn Remittent; nay, Intermittent, as the Quantity of offending Matter is extruded: And, on the other hand, we frequently find that Diaries, by the wretched Mismanagement of Pretenders, are too often heightened into some of the former; which still plainly proves that all these Fevers differ *secundum majus & minus*.

Of an Ephemera; its Causes and Signs.

I shall not dwell upon this Head, but shew you the Procatarctick Causes of them, in which the other Fevers share in common.

Cold is the most common evident Cause of all Fevers; and the Pores being obstructed by it, the Blood-Vessels become much distended by the Addition of the *Perspirabile*, which occasions a larger Pulse, in Proportion to the Quantity added; for *Cylinders* of equal Altitudes being to each other as their Bases, a larger Diameter argues a larger Base, and a larger Quantity, and therefore a larger Pulse.

Woody Places have been found to occasion Sicknesses, and particularly Fevers, from the same obstructive Power: And the ingenious Dr. Woodward has, in the *Ast. Londin Philos.* given us a most accurate and laborious Account of the Reasons of the Unhealthfulness of Woody Places, as in *America*, (particularly when our Plantation first settled.) Having found by Experiments that a Plant wou'd augment but as 1 to 46 (or 700) of Water; and that the Growth was to the Evaporation but as 1 to 46 (or 700.) How Dampy must a Place stock'd with Trees be then, and how dangerous for Health? Under this Head comes moist Weather, which also lessens the Air's Weight so much that the Blood must

must rarefy in Proportion, as has been said above: Hence in *England* we are so Healthless.

The *Heat of the Sun* sometimes rarefies our Blood into an *Ephmera*; but our Northern Climes knowing few labour from this Head, 'tis enough to have hinted at it, and proceed to one more, nay, most common Cause of them, I mean Excess of Drinking; which both adds Matter enough, and Qualities sufficient to fire it into Commotions.

Most other Causes depend on some of these, and therefore I shall proceed.

The Signs of an *Ephmera* are the numerical Symptoms that point out other Fevers; and I know no Difference save the Duration, which I have sufficiently prov'd to depend on the greater Excess of Quantity or Qualities; For they begin with Rigors, and Heat; and all other Symptoms, common to other Fevers, follow; and it terminates with Sweats: Sometimes it lasts only one Day, often two, sometimes four Days. But the most distinguishing Sign I know, is, *That the Urine settles at the very Beginning of it*; which also is common to Eruptive Fevers: But they are also distinguishable by other collective Signs, and may be better guess'd at by them. *Sennertus* only says, *This Fever did not proceed from a Procatardick Cause, therefore 'tis no Ephmera*: But he tells us he cannot argue *vice versa*. And *Walschmidt* says, *We may guess it to be an Ephmera, or Diary, if the Person were well constituted before the Seizure*. No Time nor Place is exempt from the Attack; for we have known them seiz'd in Bed, as well as out of Doors.

As to the Danger of a Diary, there is none; for it presently terminates in a *Mador*: But Mistakes or Mismanagements cannot be answered for; and 'tis easy for it to be advanced, as I have shewed above, into, even, a Continual. *Vid. Coberi Decad. Obs. I.*

The Cure of it is so easy, that Physicians are seldom consulted about them. However, if any are afraid, by the Violence of the Heat, and Strength of the Pulse, along with Headachs, that it may degenerate into *Συεχὴν*; or, if the Person seized be of an Athletick or Plethorick Habit of Body; Bleeding is advisable to abate the too vigorous Motion, or prevent Ruptures of the Vessels, along with a diluting Diet of cooling Things: Such are Oatmeal-Gruel, Panadoe, thin Broth, Sack-Whey, Posset-Drink, Small-Bear and Toast with Nutmeg, Wine and Water with a Toast. (*Claretum Coberi, viz. Aq. font. Cinnam. Sacch. coct. & per Manicam Hippocratis transcolat.*) Abstinence from Flesh-Meat till the Sweat carry it off.

If they be not burning, but are rather heftical; warmer Diet may be allowed to bring the Fever to a Balance, till they sweat; such may be allow'd Caudles of Wine, Broths, (but no Flesh-Meat,) and even, in Pestilential Cases, Wine. *River.*

If they are infested with *Sickness*, either a gentle *Emeric* or a *Cathartick* does well, especially if 'tis from Drinking or playing the Gourmand; or at least a *Glist* may be administer'd to evacuate Share of the offending Matter.

Blisters are of use, if they are catarrhus and heftical; and that they may turn such, whoever see any Examples of our Feverett, &c. in 1712. can be at no Loss to imagine or know.

In general; what is given in this short Fever ought to be lukewarm, (if nothing contraindicate;) because the *Crisis* being at hand, Perspiration is to be promoted, and no Pore ought to be shut up from being a Salley-Port to the *Perspirabile* retain'd. Whereas, if the Liquors are given cold, the Pores of the Glands of the Stomach might be obstructed, and endanger an Inflammation of that, or some other Part; as is common

mon to Persons over-heated, and immediately drinking Water upon it.

Give me leave to remind you, that *Baglivi* is of Opinion, that in the Cure of Diseases, great Regard ought to be had to the *Procataretick* Causes: *Si Febrim*, says he, *ex Insolatione vel hujusmodi externa Causâ productam curandam quis susciperet, nulloq; habito respectu ad Causas procatareticas; per præconceptam Recentium Medicorum Hypothesin non tantum Febres verum etiam morbos omnes ab Acido pendere, alcalia volatilia uberiori dosi præscriberet, ut præsuppositum febrile Acidum infringeret; & per Diaphoresin eliminaret, nonne profecto toto erraret Cælo? Cum Ebullientis ab acceptâ Insolatione — sanguinis Motus Componendi potius sint per amica Remedia, quam addendum Calcar per furentia alcalia? Apparente Igitur pro diversitate Causarum procatareticarum & antecedentium diversâ facie Causa immediata & proxima, in hauriendis Indicationibus morborum ad illas semper respiciendum erit. Aliter enim tractare debemus febrim ab Intempestivo frigore aliter à Crapulâ, Venere, Insolatione, animi Pathematis aliisq; Causis productam. And below, Nonne Insaniret Medicus qui ardentem febrim à nimia Venere productam eadem Methodo purgantium, Vena Sectionis, &c. Aggrederetur, quâ Ardentes aliis Causis, Ortum debentes, aggredi solet.*

I am sorry to dissent from so learned and laborious a Person as *Baglivi*; but *Amicus Socrates*, *amicus Plato*, at *magis amica Veritas*. Indications are to be taken from *Permanent Effects*: So that if Cold has alter'd the Pores; if Liquor has relaxed the Fibres of the Stomach, or over-crouds it; if the Sun by its Heat has curl'd the Fibres too much, or have straiten'd the Pores; if Venery has exhausted the Spirits; the Faults must be amended, because they are *Permanent Effects*. But it often happens that the External Causes produce such Effects in the
Mass,

Mafs, as require the Use of that very Thing that gave Rise to it: As is frequent in Dropfical Persons, who are enjoin'd the Use of Wine, when perhaps 'twas caus'd by that very Liquor: Cold Liquors drank by a Person over-heated, will often produce an Inflammation in the Stomach, which all know requies cooling Medicines: Rheumatick Pains often arise from Rain wetting us through our Cloaths, which, after proper Evacuations we have known cured by Immersion [the *Ῥογλασία.*] Ardent Fevers frequently depend on this Cause; and yet we must cool them. Many more Instances may be brought to convince us, that the Procatartick Cause ought not to mislead *Practitioners* so far as to neglect any Remedy contraindicated by the present Circumstances. *However, 'tis, generally speaking, helpful to judge of the Effects produc'd: But our Indications ought to be farther fetch'd, and from a surer Bottom than it, I mean from the Vitiations of the Blood and Fibres, which are best judg'd of by proper Symptoms. Vid. The Introduction.*

Of a Febris Putrida, Remittent, Συνεχὴς; Heeticks, and Intermittents.

A *Synechēs* is a Fever with Remissions, *i. e.* a Fever where there is constantly a Febrile Heat, (after the first Horror is over,) constantly a Quickness, and Frequency of Pulse; but when the Paroxysm or Exacerbation comes on, then these Heats encrease wonderfully more than in the Remission, and then the Pulse grows stronger and more frequent, and the Quickness is more perceptible. At this Time too, all Symptoms, whether Pains, Fluxes, Vomitings, or such-like, recommence and revive. So that when the Fever continues, and yet the Blood suffers *Tides*, and shifts from Ill to Worse, That we call a *Remittent Fever*, or a *Synechēs Putrida*.

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As I have hinted above, it may either be of the Ardent Kind, or of the Heſtical: For if in the Fit the Heat be very violent, and the Pulſe be very large and ſtrong, Bleeding is abſolutely neceſſary, and ought to be proportion'd to the Strength and Age of the Patient, nay, and muſt be reiterated, if Occaſion require it. And I ſay of the Remittent Kind, as Dr. Cole ſays of the Intermittent, that Blood ought to be taken away in the Paroxyſm; for then we can beſt judge of the utmoſt Heat, and may better proportion the Evacuation thereby.

After which you may give all the Diluent and Acid Remedies to cool the Blood, and ſo impede its too rapid Motion, that it may not endanger *Inflammations* or *Hæmorrhages*: And thus you prepare a readier Way for a regular dropping a Sediment, and to a Deciſive Sweat: Or if a *Remiſſion* happens, which is not ſo eaſy to obtain at firſt, in the *Ardent* Kind, when it happens diſtinguiſhably, then give the *Cortex peru.* at due Diſtances and Doſes, and continue it to a perfect Ceſſation of the Fever. In ſuch Fevers the Patients may ſit up often in a Day, or in Bed.

I know ſeveral Practitioners, who upon the Complaints of *Faintneſs*, heap upon their Patients Cordials of a warmer Kind. 'Tis true, as will appear more at large hereafter, that *Deliquia* may require for the preſent warmer Cordials: But a *Faintneſs* being only a Diſpoſition to a *Deliquium*, ought to be handled in theſe kind of Fevers by leſſening the Cauſe of them; and by theſe Medicines you are ſo far from helping this, that it will be found deſtructive, by cauſing an over-bearing Motion; and by over-diſtending the Veſſels, you would Cauſe very diſmal Symptoms.

You muſt then give them, in their ordinary Drink, ſome Drops of *Sp. Sulph. Vitr. Nitri Dulc.* alſo *Syr. Limon.* or any other Acid, to ſuch a Quantity as
may

may gratefully acidulate the Small-Beer, Barley-Water, Wine and Water, or any other small Liquor, by which you calm this violent Commotion; and at last the Urine, by this Management (for I am now only talking of the Cure, without considering the noble Effects of the Cortex, and which I believe no Practitioner ought to neglect) will separate; and then, and not till then, if Occasion require it, venture a little thin Broth, so far as to support, but not heat, till a regular *Crisis*. Though I have often known lucky Mistakes at the State, by drinking strong Liquors; yet this cannot be drawn into a precedent by prudent Men, since there was no equal Chance for so good an Event.

If the Pulse be weak, and the Heat be moderate, both in the Paroxysm, and out of it, all we can do is to give the Testaceous Medicines, to advance the Febrile Heat to such a degree, as Experience makes it evident a *Crisis* will follow; to administer gentle Cordials and Alexipharmacks to support the Spirits; and also Blisters, to rouse the drooping Circulation.

If I should here undertake dogmatically to assert the Manner of Operation of the Testaceous Medicines, I should hazard to answer a difficult Question. 'Tis doubted, however, and not without some Reason, that they seldom pass farther than the Stomach and Intestines: And if we consider, that though these Powders be reduc'd to be impalpable, and till they can be reduc'd into no larger Surfaces physically; yet if we then mingle them with Cordial Waters, nay, with Syrups or Oils, (which buoy them better up,) they will in a very little Time subside. Which makes it probable, these Sort of Medicines seldom mount up the Thoracick-Duct. And accordingly I have found them lodg'd in the *Receptaculum Chyli* in a Person under an *Empyema*, who, by the Prescription of a great Man, had taken plentifully of them; and they had harden'd into so stony
a Mat-

a Matter, that I was some Time e're I was satisfied what they were; for what the Knife would hardly enter; in some Time, dissolv'd in the Water.

If there were no Difference between the relative and absolute Gravity, it would be easily granted that Pearl would settle presently; because the Mathematicians shew us that a Body gravitates with its Excess of Gravity above the lighter: So that suppose with them $x+y$ to be the heavier, and x to denote the lighter; then $\frac{x+y}{x} = y$: So Mercury is specifically heavier than Water, as 14 to 1, therefore it gravitates by an Excess of 13; so Pearl is to Water as 2, and 51 to 1, therefore it gravitates with an Excess of Gravity of 1 and 51 above Water. Enough of this may be seen in Dr. Wallis, Pere Thomas, and J. Robault. p. 194. Part 1. c. 16. *De Corps durs plongez dans des Liqueurs*: But if we to this add, That the Resistance to Descent encreases upon dividing a Body into larger Surfaces; so that Gold-dust itself will swim for some time; we may, upon this Head, grant that these Pouders are long a settling to the Bottom; yet I must frankly own, I hardly believe they ever reach the Blood; for that we see they are never pulveris'd so fine as to make the Resistance equal to their absolute Gravity: Hence, before they pass from the Stomach, they subside, and are carried through the Common-shore of the Intestines.

It may then with Reason be asked, How Steel, Mercury, and such heavy Bodies produce their Effects in the Blood? We are certain that wonderful Effects are produced by these Medicines given Inwardly. 'Tis not sufficient to say that the Gravity of the Fluids increase upon the giving these Medicines; because I know no Trial as yet made on these things: Indeed, where they may be dissolved in the Stomach or Liquids taken, I find no Difficulty

culty to yield they do: Nor do I here talk of particular *Menstruums* that can make 'em liquid; but the bare Tincture drawn by the Juices of the Stomach from these Medicines, may sufficiently produce these stupendous Effects. So that, without pronouncing, we may probably say, that perhaps these Medicines rob the Contents of the Stomach of their offending Acidities, as we see they do in Vinegar; and these Contents constantly taking Journey into the Mass, may thus prevent future, and dissolve the present Combinations which prove a Bar to such a Motion as will be sufficient to throw off what is noxious, and so are preparatory and remove the Obstacles that hazard a good Separation, and thus eventually contribute to a *Crisis*; for the Juices of the Stomach being impregnated with them; thus chang'd, they may invigorate the Fibres and Blood; and supply Matter for Sweats; or perhaps the active Principles may be too far divided by too great a Quantity of Serum, and they may absorb so much as to make 'em attract each other more forcibly; and thus the Blood will move on in a just Tenour of Motion, and exclude the noxious Particles thro' the Pores. But 'tis trifling to enquire so nicely into the Particulars, which may remain a Secret never revealable, and therefore I shall proceed.

The Remedies are the following: *Margarit. Pulv. oc. 69. Bezoar oriental. occidental. mineral. Lap. de Goa, Contrayerva, Antim. Diaphoretic. Pulv. E. chel. C. Corn. Cerv. Calcinat. Corall. Rub. Cinnabar. Nativ. artificial. Antimon. Diaph.* and such-like, which are to be varied according to the Patient's Palate.

Rx Pulv. marg. ppt. ℥j. oc. 69. ℥ss. Bez. orient. gr. vi. Conf. Alcherm. sine mosch. ʒj. Syr. Caryoph. gr. m. f. Bol. quem repetat intra horas 5, vel 6. superbibendo Coch. iv. Fulap. cujusvis Perlati.

Rx Pulv.

Rx Pulv. e Chel. C. ℥j. Sal. vol. C.C. gr. j. Conf. Al-
 cherm. fin. adorat. vel Theriac. androm. (modò
 nullo Symptomate Comatoso contraindicetur) ʒß.
 Syr. Aurant. qs. m. f. Bolus Capiendus ut supra.

The Practitioners in *Holland* make much use of
Antimon. Diaphoretic. in their Bolus's; for they li-
 ving in low and wet Grounds, may make freer
 with fiery Absorbents than we dare.

Rx Aq. Lact. alex. ʒiij. Meliss. ʒvj. mentb. ʒß. E-
 pidem. ʒß. Ceras. n. ʒj marg. ppt. ʒj. Sacch.
 Crystal. qs. m. f. Fulap.

Rx Aq. frigid. Saxon. ʒiij. Borrag. ʒiv. Cinnam.
 b. ʒj. Conf. Alcherm. ʒj. marg. ppt. ℥ij. m. f.
 Fulap.

Rx Aq. Fragor. ulmar. ā ʒiij. Theriac. f. ʒj. Scord.
 Comp. ʒß. Syr. aurant. ʒß. m. f. Fulap.

After we have given these, or such-like, for some
 time, and by 'em have rais'd the Pulse, recruited
 the Spirits, invigorated the Motion, and advanc'd
 the Heat to a sufficient degree, 'tis then our Business
 not to tamper farther, but to keep it up to this
 pitch, without letting it fall or rise, till the State:
 when the happy Minute comes to dismiss the Fe-
 ver through some of the usual Outlets, and rein-
 states us.

After the Administration of these Medicines, 'tis
 pleasant to observe the Varieties of the Pulse and
 Urines; as the one advances to a just pitch, the other
 changes at the State, from Turbid, Milky, Thick
 and Muddy, to a good and laudable Sediment; and
 the Symptoms, in Proportion to this, vary, and ei-
 ther diminish or cease.

Some Fevers are of a mix'd kind; for at first they have weak Pulses, and moderate Heat; and yet a little after they turn Ardent, with Phrenzies: We may guess at these Fevers from these Collective Signs, viz. Surfeits, Youth, *oppress'd Pulse* (viz. sometimes Great, sometimes Small; now Weak, then Strong; now Quick, then Slow;) a particular warmth beyond the Standard; violent Head-achs, Red Eyes, Sanguine Complexion, Red Urine, a Plethora, a strong Locomotive Faculty, and nothing has preceded, that could Weaken; and *thus we may venture to make use of Evacuations by Bleeding, and what is indicated besides, as above.* I much fear, the neglect of understanding this, has given occasion to many fatal Mistakes.

This may farther be added, That Putrid Fevers are not Mortal, till they turn Continual, which any Mismanagement will easily do; and therefore prudent Care ought to be taken at the Beginning, that proper Evacuations then be made, the neglect of which they too too often suffer for, in the Progress.

As to the Administration of the *Cortex Peruviana* in these Fevers, no Body ought to be startled at *Baglivi's* ill Character of it; for it as certainly Cures Remissions, as *Chalybeats* a Cachexy; but I hope no one expects an Infallible Remedy: And as it is not useful in the Ardent kind, at the beginning, more than 'tis in a Malignant; so perhaps he may say truth, in crying it down in *Italy*, if their Fevers are always Ardent: But if Experience be a sufficient Argument to reject it, the same will be proof enough to retain it. In short, if the *Cortex* be well chose, be given regularly, and to a due Quantity, there is not a nobler Remedy in the World for all Remittents hitherto: Indeed, if we fail in any of these Heads, I don't much wonder the Success be proportionable. I have in this sort as many of the Faculty have; and upon Change, have succeeded accordingly;

ingly; but in none more conspicuously than in the Eldest, and then only Son of the Lord W—; who being seiz'd with a *Synechus*, with very fair Remissions, in which he was *Comatous* in the Fit, with an augment of his Heat, and quicker and stronger Pulse: After some Evacuations before my Arrival, I gave him about ʒvj. of it, (which, to a Child of Eight Years, was a large Quantity) to no purpose; but finding his Remissions darker, I suspected the *Cortex*, and therefore sent to the Apothecary for a Quantity to chuse on, which he and myself chose; Pouder'd it, and 'twas given to ʒj. at a time; the Fits immediately return'd slower, and with ʒij. or little more, went off quite, to the pleasing Admiration of the Family, and conviction of the Cause; which I here the rather take the liberty to mention, because a Gentleman of the Faculty of our own Nation, seems, in a Tract, not to matter whether it be Putrid, Annose, or not, which is evidently a great and dangerous Mistake. I shall only take the Liberty to annex one History more, tho' 'tis now self-evident, by every Practitioner's Observation, how useful it is. I was call'd to a Gentlewoman who had a Vertigo, a quick Pulse, and Heat upon her; she was Vomited by her Surgeon with *Vin. Benedict.* and *Sal. Vitriol* (after 8 Ounces of Blood drawn off:) The following Day (*June 4. 1701.*) I was call'd in, and found her a Vomiting every thing she took; her Pulse was weak, tho' quick; her Heat was moderate, and Urine Red: I order'd her Stomach to be wash'd farther with Chicken-Broth, and then to take a Pearl Julep to relieve her Spirits; and at Night order'd her *Riverius's* Mixture of *Succ. Limon.* *Sal. Absinth.* After which, she Vomited no more, but Slept quietly. The 5th in the Morning, she was much Refresh'd, and her Pulse was not quite so weak. In the Afternoon her Vomiting return'd, and her Spi-

rits were much depress'd (as was evident from her weak Pulse and Swoonings.) I order'd the repetition of the Antemetick Julep; and Pearl Julep for her Spirits, with a little Treacle-water, *Aqua Laſt.* and now and then, if Faintness urg'd, to take 10 *Guttis.* of *Sal. Vol. Oleos.* in the Julep. The 6th, the Vomiting ceas'd, and then a Headach came on violently, with her Pulse wonderfully stronger; insomuch as I judg'd it necessary to take away some Blood (3vj.) and obtain'd a Remission; upon which I gave her 3iv of the Decoction of the *Cortex*, and continu'd its use every 4 Hours in the Remissions; (and if Fainty, to take some *Sal. vol. oleos.* in the Julep, for her Pulse then fail'd.) All that Night she slept very well, was free from her Headach, but not without a Heaviness. The 7th, she begun to regain her Appetite, her Urine began to drop a Sediment, her Temper grew Natural, but yet her Pulse was Feverish, and therefore I continu'd repeating the *Decoct. Febrifug.* in the Remissions. The 8th, her Temper, Pulse, Urine and Appetite, began to return. The 9th and 10th, she grew very well (tho' she Vomited the Decoction) but upon Repetition, she grew Well. I repeated it within 10 Days, as is usual, and she now, which is 15 Years since, continues Healthful.

More Histories, in vindication of the *Cortex*, wou'd prove too tedious to any common Practitioner, since daily and undeniable Experience convince us of the Truth here adduc'd; but must take notice first, that, if they are not called in too late, they ought to Bleed, Vomit, or Purge with *Lenients*, before its Administration. As to giving it by Glysters (according to *Helvetius's* Method) 'tis very useful in Children (especially) who nauseate its Taste, and ought to be given to 3ß. or more at a time out of the Fit; and after one is rendred, it must be repeated till the Fever goes off.

I shall

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I shall moreover add, that I have found the Repetition Useless, if while you are giving the *Cortex*, you give a much larger Quantity than what will do. I shall therefore proceed to the *Hætick*.

C O R O L L A R Y.

From the Affinity there is betwixt a *Remitting* Fever and a *Hætick*, I take the liberty to subjoin it.

The *Hætick* has its Exacerbations as a *Remittent* has; they never want a Heat, but it abates at certain Times, as in the *Synechs*; but then as the Blood is overstock'd with an Acrimony of a particular Stamp, the Sweats that come on, do (as in the *Synechs*) abate the Heat; but still the Fund being almost inexhaustible, they never can thoroughly exterminate the Matter, but the Fits are renew'd afresh, and the Sick are drain'd, and die in a *Marasmus*. This is call'd *Hætica Simplex*: But the Cause is frequently in the Parts, and then 'tis a *Symptomatical Fever*, and this is common in Consumptions. I have seen it after the *Small-pox*, from Scales lining the whole *Intestinal Canal* (of which in *Secl. de Cholera*) and this is call'd *Hætica putrida*: Indeed Hætical Persons have no Horrors, as in the *Synechs*, but often complain of a Chilliness: However, 'tis with Reason annex'd to a *Synechs*, because of its Exacerbations and Remissions: But in *Hæticks*, these Exacerbations and Remissions are generally after Meals, when they have a sharp Heat on 'em, a frequent and quick Pulse; and Sweats, *Diarrhæas*, or Urine, hurry 'em into into an *Atrophy*. Floyer observes the Pulse 100 out of the Fit, and 120 in one.

As to the Cure, the Pulse, Heat, and Acrimony, and shifting in the *Hætica Simplex* must direct us: And in the *Putrida* the nature of the Inflammation; and the Obtunders are necessary in both.

In the *Simplex* then, after Bleeding, (if their Heat be great, Pulse strong, the *Hætick* just beginning, and their Strength allow of it) we must make use of such Remedies as obtund and correct the Acid Acrimony, such are all Slimy, Watry, and *Testaceous* Medicines, a *Milk-Diet*, *Steel-waters* of the lighter kind; the *Decoctions* of *Ivory*, *Harts-horn*, *China* and *Sarsa*: Willis de *Phthisi* uses this; R $\bar{c}$, *Lign. Sanct. in Constitution. Phlegmaticâ aut frigidiore*) Rad. *Sarsap.* ℥iv. *Chin.* ℥ij. *santal. alb. rub.* à ℥β *Raf. Ebor. C.C.* à ℥iij. *f.* à *Infundantur* & *coq. in Aq. font. lbviij. ad iv. addendo liquirit* ℥vj. *pussular. Exacinat.* ℥jβ. *pro potu ordinario Constanti* & *aliquandiu sumantur.* Chesneau in his *Capite de Phthisi, Obs. 1.* has the following *Decoction.* R $\bar{c}$ *Chin. in Taleplas incisa* ℥ij. *Fol. pulmonariæ m.j. Infund. Chin. per Noctem supra Cineres calidos in Aq. font. lbvj. mane injice pulmonar. fiatque Decoction lentâ Ebullitione ad tert. partis Consumptionem. Colaturæ add. sacch.* ℥ij. & *Cinnam.* ℥ij. *pro potu ordinario.* A Great Man fram'd a *Decoction* like these, and palm'd it as his Secret and Invention upon his Patients. The Diet ought to be such as consists of the like Particles; such are *Puddings*, *Gruels*, *Milk-meats*, *Rice*, *Avenacea*, some Fresh Fish, (*Aselli*) *Crabs*, &c.

After the Blood is well Corrected, give the Powder of the *Cortex* to a Dram thrice a Day to abate the Fever-fits: These Medicines continu'd for some time, and with the usual Cautions will have their desir'd Effects, as I have frequently experienc'd.

Immersion in cold Water, which is lately reviv'd, is also very good in this Case, if the necessary Cautions be observ'd, (*viz.* not to venture on it, if any Viscus labour under an Incurable Disorder, or be faulty; not immediately after a Debauch, in *Defluxions*, nor weak Persons) you must stay in, a good while, the design being to allay the Heat.

But

But as to the *Putrid Hætick*, repeated *Bleeding* is necessary in beginning Consumptions, for then all know it depends on *Tubercles*, or the *Glands* of the Lungs Inflam'd; and then too 'tis necessary to give all the *Obtunding Medicines*, as in the *Hætica Simplex*; and other Indications arise from the Nature of the Case, such as *Opiates* at Night, to allay the violent Irritation of the Cough; *Issues*, to revulse the Humours; *Blisters* for the same End. But this Discourse belongs no farther to this Head, and therefore shall pass on to the *Intermittents*.

Intermittents are cur'd in the same manner as *Remittents* are, in regard of their shifting: But 'tis observable, that without due Evacuations, the Fever is apt to return; and if the Blood be remarkably out of Order (as it often is in some *Tertians*, but more especially in *Quartans*) if the Blood is not corrected too, the Ague Returns and sometimes cannot be taken off at all by the *Cortex*, till the State of Blood is Corrected. After proper Evacuations (and Corrections, if requir'd) then give the *Cortex*, from 5 gr. to ʒj. at a time, every 4th Hour, during the interval of the Fit, till it returns no more: Thus all Agues (whether *Quotidians*, *Tertians*, *Quartans*, or others, compounded or suppos'd to be, of these) are carried off, unless some *Idio-Syncrasy* hinder; for then you must, instead of the *Cortex* substitute some other *Antefebrile Medicine*, such are, *Mistura Dekkeri Antifebrilis* (viz. R^x Cort. Lign. Guaiac. Fraxin. ā ʒj. Extract. Rad. Angel. Gentian. Antimon. Diaphor. Sal. vol. Sal. armon. ā ʒj. Myrrh. ʒij. m. f. pulv. divid. in Chart. N^o viij. or Pulv. febrifugus Fulleri (viz. R^x Sal. absinth. ʒβ. Antim. Diaph. ʒj. Flor. Camom. ʒijβ. f. pulv. pro 8 Dosisibus. Many have cur'd Agues with *Allum ʒj. and Nutmeg mix'd*, and given every 4th Hour, (the Nutmeg in Rat. *Aluminis Subdupla*). I suppose *Wainwright* commends *Serpentaria Virgin.* with the *Cortex*, as *Bates* does in his

Pulv. febrifug. certo. which may do well, especially if we want Correctors of Crude Humours: The *Decoctum amar. alterans*, is also commended: But if the *Cortex* will doe, why should we fly to Medicines that fail a hundred times, for the *Cortex* failing once?

As to the Reasons of the Operation of the *Cortex*: 'tis Trial convinces us, that if you Bleed on it, the Blood will not Coagulate; so that if the other Medicines, such are *Oc. 69. Sal. armon. Sal. absinth*, and such-like, can hinder the Coagulation of the Blood, and are given in these Intermiſſions; we may conclude, without the hazard of being reckon'd haſty in our Opinion, that what can hinder the coagulative Principle of the Blood, can hinder the *Rigors*, can occasion an equal Protruſion, hinder its ſhifting, and will occasion it to move on in the ſame Tenor as in Health, and can prevent a Fit; but I always talk with reference to proper Evacuations, to be premis'd, if poſſible, as well as proper Alteratives, if Time be allow'd us to act; but Prudence will dictate its immediate Adminiſtration, where 'tis not in our Power to proceed ſo regularly, for fear of loſs of Time.

Of Continual Fevers.

Having now done with all Fevers that ſhift, and either Intermit, or Remit; I ſhall ſpeak of the *Continual* ones, (*Synochoi*;) by which I mean a Fever that is always the ſame, never ſhifts; they are not better or worſe, have no Exacerbations nor Remiſſions; their Pulſe, Temper, and Order is equable, and the Blood always moves in the ſame manner; and as it argues a plenty of *μιασμα νοσηρόν*, ſo 'tis of much worſe Conſequence than any of the former, and proves too often fatal: And as in the foregoing Paragraphs, I have prov'd it of two Kinds; ſo is the one ſort of more fatal Conſequence (*generally ſpeaking*)

ng) than the other; for 'tis more hazardous to labour under a penury of Spirits, than too burdensome a Quantity. Hence Galen says, *Ex Repletionem Convulsio Sanabilis est per Evacuationem: Ea vero quæ sit ex Inanitione & Nervorum Siccitate non facile admittit Curationem*; which exactly quadrates with our different *Synechoi*.

It must then be allow'd, because all Practice confirms it, that Continual, as well as other Fevers, retain to the *Causus*, or *Hætick*: They in the more Southern Parts of the World, and nearer the Line, are more subject to the Ardent Kind, and we Northern People to the latter, (at least most frequently). And hence it is, that in these Parts they frequently die in two Days, and often in four and twenty Hours; for that the Blood so overflows its Limits as to rend the Vessels, and occasion either *Hæmorrhages*, or Effusions into the Cavities. Galen *de method. medend. L. 9.* expresses the method of Cure thus, *Continentium febrium præsidium maximum, si modo vires valentes sint sanguinis Diminutio vel usque ad Deliquium animi—: Ubi horum (viz. valida virtus & ætas) alterum haud satis respondet satius est, quantum satis visum fuerit, tantum principio detrabere: Quod defuit Iteratione supplere.* This Method they follow much in the warm Isles, till they have brought the Motion within compass, as I perceiv'd from a Relation of mine, who had lived for some Years upon them; and at the same time they give all the Cooling Medicines to allay the Violence of the Fever; after which, they give the *Cortex*, if it turn Remittent: And thus they Cure these Fevers. The *Turks* in their Plagues use *Lemons* plentifully. And *Wecker* speaking *de Limoniis*, says, *Item & ad Pestilentes Febres & eas quæ Contagione non vacant, febribus acutis & Contagiosis mire succurrunt.* Which demonstrate to us, that they labour under the Ardent Kind: and our
Sydenham,

Sydenham, speaking of the *Pestis* reigning in London in 1666, says,—*Febris ardens usitata Symptomatum* Συνοδὸν ἰσχυρὰν *stipata indefinenter agros divexat*, and treated 'em with Bleeding to large Quantities, till he seem'd to be blam'd, for want of Success in some few. So that from Authority we conclude, that when a Continual Fever seizes any with Symptoms of *Ardency*, tis too plain to want farther Proof that the Cure is by Bleeding and the Cooling Methods, in proportion to the Necessity.

They who labour under the *Hætick Malignant*, have a *depress'd and weak Pulse*, and their *Heat is not very perceptible*. Tis not, in this Case, very likely that Nature, (pardon the Expression) will ever free itself of its Bosom Enemy (the Putrid Particles) or ever exterminate 'em thro' any Part: And thus the poor Patient labours under a train of ill Symptoms, which take their Rise from the most dangerous Cause in Human Frame; I mean an Exhaustion of Spirits in the Brain; for now *subfultus Tendinum*, Coma's, Catchings, gathering the Cloaths, Dry and Black Tongues, involuntary Effusions of Urine and *Fæces*; obscure, Formicant, and *Pulsus coarctati* come on, and usher in Death. In this Case the Affair stands thus: As the Paucity of Spirits are concluded from these foregoing Symptoms, so 'tis certain the Circulation will, in proportion, be much retarded, and every Evanescent Artery or Capillary will be a bar to its Motion, which the quantity of Spirits cannot surmount; for now they fail to be so dense: So that the Trajection thro' the Vessels ceases, the Stroaks of the *Embolus* begin to be too feeble to propell the Liquids in the Vessels to the Extremities; and thus at first the Blood will cease to move in them, and the Pulse will not be felt to beat, or Death has begun there; for when the Immitting Force cannot conquer the Resistances, there is no Circulation; and where the Circulation ceases,
there

there is no Life. And as each Moment draws off Spirits that are never supplied, no wonder the Fluids stagnate gradually higher, till at last the Blood in the Heart stagnates too; and then arrives that dismal Moment when the Thread of Life is cut.

They whose Fortunes will not allow of a regular Physician to attend them in the Course of a Fever, now call them in to be Witnesses of this *Catastrophe*, when God knows how little remains to be done: For notwithstanding all your Endeavours, the Blood in some Persons can never be made to keep on the Circulation. Whether at this Time the Blood it self grows too gross, as not to yield to any, even the strongest Shocks of the Fibres to propell it; or whether now the Fibres in some Persons may not grow Paralytick, so as not to be obedient to any the most potent Applications, 'tis equal: For either are of the last ill Consequence; since now approaching Death makes a cautious Person unwilling to act, when the Actor must be blam'd for want of Success, though the Recovery be an Impossibility. You are obliged here to give the strongest *Alexipharmacks*, and apply *Blisters* and *Emplast. Solearia*, to promote the Circulation, till some lucky Chance happen that the Particles, now settling upon the Organs, and creating the dismal Symptoms, may be thrown into the Mass, and kept moving; and then, by adding Spirits too, the morbid Ferment may præcipitate, and a Victory may be gain'd. It can hardly be imagin'd what wonderful Effects have been wrought by these extreme Remedies, when the Physician even had little Reason to promise himself any Success from them. Which I mention, to embolden the Application to them, as long as the Patient's Friends encourage us to proceed: For I must own, that if *Involuntary Effusions of Faces and Urine*, and if the *Coldness of Extremities*, with failure of Pulse, and loss of Motion of the
Extreme

108 Criticon Febrium : Or,

Extreme Parts, can be cured by these Methods, as I have experienc'd they can; why should we despair or cease to act?

Here we give *Pulv. Rad. Serpent. Virg. Camphora. Sal. vol. C. C. Sal. Armon. vol. Sp. C. C. Theriac. Audrom. Elect. de Ovo.* and such-like, frequently in a Day in a watry Vehicle, to add Motion to the Blood, recruit the drooping Spirits, and stimulate the Fibres.

'Tis customary with Authors to blend Stipticks along with Alexipharmacks, and they look on them as proper Antidotes in these Cases: Such are *Bolus vera, Terra Sigillata*, and such-like. I have all along shew'd that there are two States of Blood in Fevers; and as Authors have only in general told us that they are proper in malignant Fevers, to preserve the *Crafs* of the Blood, let us see in what Manner they do act.

Their Effects are to clog and arrest any rapid Motion, (by having Particles of less Agitation than those of the Blood, &c.) to unite and agglutinate the Particles, too much dissolv'd by their ramose Parts: And these are the Effects they have on the Blood. The Effects they have on the Fibres, are to shrink and contract them into a narrower Compass; from whence their Diameters are lessen'd. From the first Effects they may properly enough be given in the *Ardent Kind* of *Malignants*. But if we consider their Effects of contracting the Vessels, we may conclude them also good in the *Heftical Malignants*: For 'tis a Maxim known in Hydrostaticks, that Fluids run swifter through a smaller Tube of the same Altitude, than through a larger. In Malignant Fevers, with a burning Heat, as I have seen sometimes along with *Hæmorrhages* and *Bloody Urine*, or *Diarrhæas*, they are the proper Specificks. What we may say then, is, that in the *Ardent Fevers* they may be given in proper Doses, as well as Acids, to impede the

the violent Motion: But in the *Hectical* they cannot be safely given, unless they be blended with those of the *volatile Kind*; by which Contrivance the Blood may receive little Harm, but the Vessels much good; the one may be attenuated to a proper Degree, and the Contraction of the Vessels may contribute to an equal Protrusion of the Fluids: So that we see, though they cannot have any Effects of throwing off any noxious Matter, yet they may have other Vertues equally advantageous, and do accidentally further a critical Evacuation.

To determine the Number of *Blisters*, you have no other *Criterion* to rely to, save the Pulse and Heat; and not only they, but also all Internal Medicines are to be admitted or rejected by these Marks; for 'tis equally dangerous to raise too violent a Commotion, as not to exalt its Motion to a sufficient Standard.

Before I proceed to the Subdivisions of *Continuals*, I shall here remind you why the *Cortex* is not used in the *Continual Fevers*, which is easily answered by the Management in *Intermittents* and *Remittents*. I have before taken Notice, that all Fevers have their *Horrors*, *Heats*, and *Declinations*: And as *Intermittent Fevers* are so many distinct Fevers, so *Continuals* resemble one Fit of an Ague: And as the *Cortex* cannot be given in either, the Fit of *Intermittent* or *Remittent*, at least, with any Success; so the *Continual* being but one long Fit, it cannot be given in it: But as it serves to prevent the Return of the others; so may it prevent our falling into *Malignants*, if given timely before our Seizure, and by way of Preservative.

To the CONTINUAL belong the *Malignant*, *Pestilential*, and *Pestis*, as so many different Degrees of the CONTINUAL; which are thus distinguish'd.

The *Malignant* is, when a *Continual* Fever seizes us with an equable Pulse and Heat, with Symptomatical

ptomatical Sweats, Dejections of Spirits, *Deliria*, *Vigilia*, *Coma's*, *Tendinum subsultus*, *Urinæ straminea*, Dry and Black Tongues; and these are the First Degree of CONTINUALS.

The *Pestilential* is, when these same Symptoms supervene with Spots, *Petechia*, or *Morbillar Efflorescences*, and they become Epidemical, and kill many by their more incorrigible Qualities. *Vid. Vidius* tells us, λοιμώδεις--- *communiter vagantur & plures eodem tempore occupant, non tamen omnes vagantes communiter dicuntur Pestilentes, sed illa duntaxat quæ pravae sunt, & plerosq; interimunt eorum quos attingunt.* And *Dolaus in Feb. Pestil.* says, *Multi sunt qui pestem à Febre Pestilentiali distinguunt, sed sunt tantum diversa nomina circa diversos gradus.*

The *Pestis* is, when this *Continual*, by the same Symptoms, is so violent, that hardly one Fourth of Mortals escape, which they generally do, or die in Four Days. *Etmul. ait: Omnium maxime est Pestis ea vulgaris quam nunc Bubones, nunc Carbunculi, nunc Petechia, pestilenciales insequuntur.* Et paulo infra, - - *Per Pestem nihil aliud intelligitur quam morbus maxime contagiosus & epidemicus, qui ortum ducit ex miasmate venenato ab Aere primum suscepto, & hinc per contagium propagato, quo occulte & latenter homines aggressus in summum vitæ periculum conjicit.*

'Tis plain therefore these Three Subdivisions of *Continual Fevers* are different Degrees of the same Species, and are only distinguishable by the Degrees of Danger and Epidemicity. In short, where-ever any Eruptions appear, and the Fever is very Mortal and Epidemical; and at the same time trade with Infected Places, brings in Goods from them, without the due Quarentines, 'tis a very suspicious Case; and nothing but a superlative Ignorance, back'd with Avarice, can blame the Suspicion. *Willis* says, *Interdum*

terdum nimis securi Pestilentiam ratione symptomatum Febris communis amulam contemnentes pericula nostra, non nisi sero deprehendimus.

All. sorts then of Continuals may belong to the Ardent or Helical sort, as may appear by Practice; and Sydenham proves and shews the Pestis and Febris Pestilentialis of 1665, 1666, to have been Ardent; for he says, *Primus insultus rigorem ac horrorem quemadmodum & Februm Intermittentium accessiones, fere perpetuum habet comitem, mox vomitus enormes, dolor circa cordis regionem, ac si Torculari premerentur, FEBRIS ARDENS usitata symptomatum συνδρομή stipata indesinenter agros divexant, donec aut mors ipsa, aut benigna Bubonis vel Parotidis Eruptio, quæ materiam morbificam foras ablegat eos ab luctuosissimo discrimine liberet.* And mentions some Instances.

As to the Helical sort, read Hodges de Pest. Lond. 1665. where he says, *Calor mitis in puellâ & admodum blandus, interiora utique manifesto non conflagrarunt incendio. — E contra vero omnia tam pacata, tam serena, perinde ac si nulla aegritudinis procella jactaret, nedum impenderet vitæ jactura; revera mihi non constitit de causâ aegritudinis quam simulasse morbum suspicabar, donec Thorace nudato in dubia hic illic stigmata pro more compuncta partem sensu vacuasse indicaverint, merito habita properantis Fati Arrhabone, eâdem nimirum nocte puella expiravit, vix dum vel suo, vel astantium iudicio valetudinaria.* Diemerbroeck in Pest. Noviomagens. Hist. 120, & ultim. says 'tis sometimes without a Fever; and so does Barbette.

Having shew'd then that these Fevers may be either Helical or Ardent; let us see how the Authors treated these Persons under the several sorts. They who found them of the Helical kind treated their Patients with warm Alexipharmacks: So Hodges commends Sp. C.C. ℞ij. vel ʒj. ex Aq. Epidemica.

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Barbette praises his *Pulv. Alexiterius*, viz. R Rad. *Contrayerv.* ʒʒ. *Petasitid.* *Tormentil.* *Enul. Campan.* ā ʒj. *Raf. C. C.* *Ebor.* ā ʒj. *Corall. rub. ppt.* ʒiv. *Cinnam. acut.* ʒij. *Antim. Diaph.* ʒʒ. m. *Diemerbroeck* makes use of this: R *Conf. de Hyacynth.* *Sal. Scord.* ā ʒj. *Sal. Card. b.* ʒʒ. *Theriac. Androm. Diascord. Fracastor.* ā ʒij. *Aq. Theriacal.* & *Card. Ben.* ā ʒj *Ol. Vitriol. gr.* xij. m. f. *Haustus pro Sudore.* *Helmont de Peste* commends these Seven, *Hypericon*, *Vincetoxicum*, *Enula*, *Dictamnus*, *Aristolochia*, *Laureola*, and *Raphanus Sylvestris*; as also Common Rue, Zedoary, Scordium, &c.

Sydenham having describ'd his *Pestis* as of the Ardent Kind, did accordingly Bleed his Patients plentifully; and mentions one who us'd to Bleed *ad Deliquium Animi* (which is *Galen's* Method hinted at above) successfully, and kept 'em under a cool Regimen: 'Tis true, that he did afterwards alter his Method for a very different one, and yet succeeded; having, after once Bleeding, given Diaphoreticks for 24 Hours without Interruption, (in which he copies *Angelus Sala* very exactly:) However, I don't find that he did this, because he did not believe the other a safe Method, (so far as appears at least) but to avoid Reproach, and that he might not seem to stand alone in a Method: To which it may be added, That a *Pestis* includes a *Complex Indication*, and is therefore consider'd as a *Fever*, and as a *violent Malignity*, from whence there is the utmost Danger of the *Spirits* being *immediately* either *evaporated* (by the violent Dissolution of the Blood) or *fix'd* (by the extreme Coagulation of it) beyond the Possibility of Recovery; and that therefore we are oblig'd to neglect the *Fever*, and bend our Consideration entirely to the *Malignity*. However, there is yet one thing to be consider'd, in relation to the History of this *Pestis*, which I look upon to be very material; nor do I find that any Person

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Person has yet observ'd it: *Hodges* and *Sydenham* speak of the same *Pestis*, and yet they disagree in the most material Point: For Dr. *Hodges* observes, That Persons, seiz'd, complain'd of no Heat, nor had they so much as any suspicion of a Fever on 'em: Whereas *Sydenham* expresses, That they had all the Signs of an *Ardent Fever*. Which of the two to give credit to, is hard to determine; only *Sydenham* having taken up the Method of Diaphoreticks, as well as *Hodges*; to me, it is an Argument who gave the most faithful Relation.

Thus we see, that the different States, are by all differently treated; but that, as in Pestilential Cases, *Crises* are not easily obtain'd; (for that the Humours are not Concoctible,) we are obliged to invert our Methods, to avoid a worse Chance.

'Tis observable, that Persons, *Quorum res est angusta domi*, are easier cur'd of these sort of Fevers, than such who have fed plentifully, (and it may be that the *Plenitude* overstocks the Blood with a great *Heterogeneity*, not to be met with in the Constitutions of the Meaner Fry) and they consequently require fewer Evacuations: Whereas I have known Numbers of the Richer sort who underwent a harder fate, for want of Room for such Evacuations; or because the Evacuations made, have neither been proportion'd to the Indication nor Strengths of the Laborant: But let such thank their own Credulity, in leaving this principal Concern to the least Knowing. 'Tis thus that I have often seen Poor Persons labouring under Petechial Fevers, recover without any great *Apparatus*, save some gentle Evacuation proper for the present Circumstances, and the Pearl Julep, and some nourishing Chicken-Broth; which more certainly produce their Effects on them, (as seldom being us'd to 'em,) than on the Rich. I would have it, however, remark'd here, That Young Practitioners will often

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be terrify'd, in Visiting the Poor, in mistaking Common Fevers for Petechial ones ; because of the Flea-bites : Which need be no farther mention'd, since this is easily discoverable by a Black Speck in the middle, which the *Petechiæ* have not ; and that they disappear ; but that the *Petechiæ* continue constant, or at least, upon retreating, produce dangerous Symptoms.

C H A P. IV.

Of Eruptive Fevers.

I Have already call'd these Fevers by the Name of *Neutral*, because they are not always of the same Species, but are sometimes accompany'd with an *Intermitting Fever*, sometimes with a *Remitting*, and often with a *Continual*, so far as to be Pestilential, as they have been through most Parts of *Europe* for these Five Years past.

They are such Fevers where we expect a Crisis, by Eruptions on the Skin ; (such are the Small-pox, Measles, Scarlet Fever, Rubeolæ, Crystalli, Rash or Febris Miliaris, &c.) Besides the ordinary Symptoms that attend other Fevers ; such are, Head-achs, Vertigo's, Inclinations to Vomit, Sweatings, Thirst, Inquietudes, Vigiliæ, and such-like : In these there is also superadded a certain Oppression at the Breast, which is a distinctive Sign that ushers in these Fevers. And 'tis observ'd by Physicians, that whenever there is any Tendency from the Center to the Circumference, that then the Patients complain of Oppressions, Loads, and inexpressible Uneasiness that chiefly affect the Breast : And whenever the Efforts, made to throw this offending Matter off to the *Cutis*, succeeds ; then, and not till then, that Oppression

pression vanishes. This Oppression is the usual *Præcursor* of all *Crises*, even in Common Fevers: And as in these *Eruptive* ones, the *Crisis* is not very distant from the beginning, so the Oppression is at the first seizure; whereas, in the *Putrid Fevers*, the *Crisis* succeeding the State, 'tis later observ'd in 'em. But if this peccant Matter is not sufficiently thrown off; then, instead of Ease, by the partial Eruption, some dangerous Symptom supervenes: For where the Regular Eruptions are by any busy Method retarded, Symptoms are usher'd on the Parts; so that then they are afflicted with *Colicks*, *Deliriums*, *Coma's*, *Paripneumony's*, and many more such; and the Fever is term'd *Anomalous*: Now this may happen in any *Stadium*; and therefore I wou'd have it remark'd as an *Index* of an Irregular Eruption, Maturation, or Declension.

I shall add no Reasoning about the Nature of these Eruptions; since the Patient's being afflicted with all the kinds of Fevers, argues that the same Causes that produce other Fevers, also produce these, but that the Qualities of the Blood are of a particular Stamp, to create Eruptions; and therefore shall proceed.

These Fevers, then, have several *Stadia*, as well as the others; but in these they acquire not the ordinary Appellations of *Initium*, *Augmentum*, *Status*, (which is follow'd by the *Crisis*,) and *Declination*; nor do they follow their Order. The First *Stadium* is call'd the *Apparatus*, or Space before the Eruption: The Second is call'd the *Crisis*, or all the Space from the first appearance of any Spots or Pustules, to the compleat Eruption of all that is to appear: The Third is in several *Inflammation* and *Suppuration*: The Last is, in all, call'd the *Declension*, and is that Space when the Pustules scab, or the Spots scale off, and all Symptoms (if Regular) disappear. The *Pestis* might be, in regard of its Eruptions, referr'd to these Fevers; but because the

Pestis is always a *Continual Fever*, and these are often far from it, I thought it best to place it amongst the *Continual Fevers*.

If then Symptoms of a Fever begin; if that Season produce certain Fevers that are of this Stamp, we may guess them to be of this Kind. But in a more particular Manner, if *Loads on the Breast*, *Coughs*, *Asthmatick Breathings* afflict the Patient; and if the *Urine settles with a concocted and laudable Sediment*; we may almost pronounce, that some *Eruptions* will follow: For 'tis observ'd that Urine settling the first Day, the *Crisis* will be on the fourth. *Galen de Crisibus*, Lib. 1. p. 628. l. 32, &c.

Our Business is next to find out the Species of Fever, and the Manner of Seizure: As, whether it be of the *Intermittent* Kind, of the *Remittent*, or *Continual*; whether it be of the *Ardent* or *Heftical* Stamp; what Habit of Body they are under. If the Fever be of the *Intermitting* and *Ardent* Kind, if the Patient be of an *Athletick* Habit, whatever Species it retain to, you must first Bleed in Proportion to the Ardency and Strength, and must repeat it, if any Occasion urge, and give all the diluting and cooling Drugs, as has been hinted above. If the Fever be of the *Heftical Sort* give, in the Fit, the *Tefaceous Medicines* in *Bolus's* and *Juleps*. But in the Intervals of the Fit, the *Cachexy* must be evacuated by gentle Lenients or Vomits, if indicated, to cleanse the *Primæ Viæ*, nothing being proper at this Season, but such; (the *Crisis* being so near at hand,) and the *Regimen* as before; and then the Patient is to be left to the Chance of what follows, which generally is a good one; such Fevers generally producing distinct Eruptions. In this *Stadium* the *Cortex* is prejudicial, as I have experienc'd in a Gentlewoman, who labour'd under the *Febris Papillaris*, and had the *Cortex* given by an Apothecary at the very Beginning: It occasion'd a very irregular and odd

odd Fever; for some *Papillæ* that appear'd lively one Day, disappear'd in the Night, with unconcocted Urine, and dry Tongue; and others repullulated, and disappear'd, shortly after, with *Delirium's*. And thus the Struggle was continued sometimes with promising, at other times desperate Symptoms for 20 Days; and was ended gradually by Sweats, but at last, most apparently, by some Stools, with concocted Urine. So that though it have the Power to hinder a regular Eruption, yet it does not hinder the ill Effects of the Retention of this putrid Matter lodg'd in the *Sinus* of the Blood. Whether this Sort of *Compositum* is of too strong a Nature to be curb'd by it, and how, I shan't now dispute; but we find even the greatest Patrons of the *Cortex* don't espouse its use in this *Stadium*. *Mort. p. 134. de variol. inquit. In Sove-*
rexi autem variolosa, --- Natura propriis viribus
instructa Victoriam Crisi perfectâ in Stadium proximo
Sponte, sine Ingrati hujus Remedii ope reportatura
est. And our Syden. in *Schedul. Monitor. de Novæ*
Febris Ingressu, Ann. 1684 ait. Eodem Remedio (Cor-
tice, viz.) hanc etiam Febrim (viz. petechialem, mi-
liarem) adoriebantur. Quod quidem licet Judicio
Rationis suffragante tentarent (quia Intermisit vel Re-
misit) non tamen æque feliciter illis cessit atq; prio-
ribus illis Annis (à 1687 ad 1665) plerumq; cesse-
rat. Mibi enim quantum potui diligenter perqui-
renti Compertum fuit etiam magnam Corticis Quan-
titatem exhibitam rarissime agrum a morbo liberasse.

What is here advanced about the *Intermittent*, will also hold good, if your Patient be seiz'd with the *Remittent*, which indeed is more frequent than the former; and as the Eruptions that succeed either of these are either of the Distinct, or only Coherent Kind; so they are generally, in the next *Stadium*, left free from Hazard, and seldom require more than a due *Regimen*; for the Fever either ceases or lessens, and the Urine either drops a Sediment, or

has none at all in it. Which are Arguments of a partial or total Translation of the morbid Particles to the Skin.

Where indeed the Fever, from the Beginning, is *Continual*, then they are *Comatous*, they are afflicted with *Subsultus*, and various other Symptoms. And if it retain to the *Hectick* Kind, or the Heat be small, and Pulse weak; we are then oblig'd to have recourse to *Alexipharmacks* of different Degrees, in Proportion to the Defect of Spirits requisite for a *Crisis*; for in this *Case* 'tis not to be expected without these Helps. Not many Years ago I had a Patient of twelve Years of Age, who was seized with a *Delirium*: Her Pulse was obscure, and Heat scarce perceptible. On the 14th of *March*, 17th, the Small-Pox broke out; she had *Petechiæ* on her Neck, Arms, and Breast; her Pulse was quick and small; little Heat; the Urine was *Citrin*, but without any Sediment. I ordered a Blister to her Neck; gave her *Sp. C. C. Gtt. vi.* in Sage-Tea. Also I prescribed a *Bolus* of *Testaceous* Powders, and *Fulep perlat.* every fourth Hour. By the Help of these the Pustules broke out regularly (of the Flux Kind.) As Symptoms abated, Orders were left to lessen the Doses. On the 21st her Urine settled: They maturated without any Trouble to her, save that the *Saliva* was a little glutinous, and less, and her Urine not plentiful. However, her Face kept swell'd: I order'd her *Aq. Patroselin* ζ iv. *Sal. Succin* $\mathfrak{z}$ β . *Syr. e. s. Rad.* $\mathfrak{z}$ i β . Every second Hour two Spoonfuls; a little Canary once a Day; and at Bed-time *Syr. de Mecon.* $\mathfrak{z}$ ij. The 22d, she was still feverish; she salivated more plentifully; her Face was yet tumid; the Pustules from crude and waterish, now turn white and fuller; her Urine settled, but slept ill: I order'd the same Medicines to be continued. The 23d, I order'd as the Day before. Her Lips scab. The 24th, her Salivation continues: The Urine

Urine was more plentiful, but without Sediment: The Fever lessens: Her Face was yet swell'd; and her Eyes were inflam'd, and watry. The 25th, her Urine settled, and was plentiful; her Eyes grew better; her Fever less: She salivated yet; Her Appetite return'd; The Remedies as before. The 26th, they scab on the upper Parts, and do so below: The Salivation, and Fever lessen. The 27th and 28th, the Salivation and Fever lessen; Her Appetite return'd; Scabs come on every-where. The 31st, the Scabs fell off: No Salivation: Her Urine was *Citrin*, without Sediment: Her Appetite good: No Stools from the Eruption till now: The Pulse was hardly frequent. The 10th of *April* we order'd $\frac{3}{4}$ iv. of Blood, which was Rheumatick, and next Day an Infusion of *Senna* by which she recover'd. Thus the Fever, though *malignant* and *remiss*, was manag'd without any great Pomp, through the several *Stadia*, to the Advantage of the Patient.

I was called some Years ago to a Gentlewoman, seized with the Small-Pox. She had taken, by the Advice of an Apothecary, some *Sal. Cathart. amar.* by which she was much dejected, and her Spirits were very low. Spots begun to appear, and she was very fainty; her Pulse low and quick, and Heat small. By which 'twas easy to guess that her Spirits were much exhausted. I ordered her a Blister, and generous Alexipharmacks. Upon which her Pulse grew stronger, the Pustules broke out plentifully, her Sickness abated, and, after the Eruption, a plentiful Salivation came on: And, by the Continuance of the gentler Alexipharmacks, she recovered, without much more ado. The Pustules on the Breast were large and vesicated.

It often happens that the Fever is *Continual* and *Ardent*; and the Management above-nam'd would be so far from being advantageous, that you would endanger a Train of very ill Symptoms: As I knew in a Boy of six Years of Age, in 1698; who,

upon being seized with the *Variolæ*, had *Deliria* and *Subsultus Tendinum* upon him. His Pulse was very strong and quick; his Heat very great. Upon giving *Testaceous Medicines*, and stronger *Cordials*, he grew much worse: But upon changing these, for Bleeding, and cooling and diluting Remedies, he grew cooler; his Pulse grew less strong and softer; his *Deliria* abated; the Pustules appeared; and he was cured by the cool Regimen, without much Pomp. This is not only a standing Truth in the Small-pox, but also in all Eruptive Fevers; for 'tis certain, that if the Fever be too violent, the Eruption will be an Effect of this Violence; and we shall, by this Imprudence, hurry on Inflammations of the Lungs, Head, or some noble Part, and hasten their Exit.

'Tis remarkable, that all Eruptive and Inflammatory Fevers early require Bleedings, and other Evacuations, (if at all:) And the want of them is rarely (even in the *Ἀκμῇ*) recompens'd by any Sudorifics, though the Urine be concocted, and they seem to be indicated. But the Heat requisite for a Sweat colliquates the putrid Matter, reblends with the Blood, impacts it into the Lungs, or some considerable *Viscus*, and kills the Patients, when we might reasonably expect a better Fate. Whether it is, that the more we endeavour to heat, the more we in-crustate; whether the fibrous Parts of the Blood easier remix; whether they are more bulky than to pass the Pores; whether when the serous Parts are evaporated, the fibrous are still retained; whether in this State the Spirits are too scanty; whether one or more of these contribute; 'tis little to our Purpose, any farther than that Evacuations are to be made very early.

I was called, 1710, to a Gentleman of Eighteen, who had the *Variolæ*: They broke out with a brisk Fever: They were of the Confluent Kind: He was restless,

restless, thirsty, and very hot; he continu'd very hot all along, from the Eruption, to the Maturation; when the Pustules were very painful, the Fever very high and vigorous, the Arteries beat wonderfully strong; the *Intestines* were so dry'd with the Heat, that we were forced to extract the *Fæces* (when the painful Throws offer'd) with Instruments, (for a Glyster had no Effect, the *Fæces* being too plentiful;) there were *Petechiæ* on the Legs; the Face, Hands, and Feet were swell'd; he did not Salivate, but Breath'd short, and Cough'd; his Urine settled; he was taken with a *Diarrhæa*, from whence his Right-Hand settled; the *Diarrhæa* continu'd for four or five times next Day, and he slept well; his Stomach pain'd him from over-feeding; his Pulse was still strong, and the Fever continu'd; his Face scabb'd; his Hands fell from the Breach of the *Vesicula*, which was a Continued one: Notwithstanding the violent Cough, by which he Expecterated plentifully, with *Linctus's* and *Pectoral Decoctions*, his Face did not fall, but Scabs grew four times upon him: At last a *Hætick* seiz'd him; but by the *Cortex* and Cooling Diet, all Symptoms, along with the Fever, vanish'd. I treated him with Cooling and Diluting Medicines, and Opiates at Night; *Pectorals ex Decoct. Pectoral. & Tinct. Croc. cum Syr. Balsam.* And if Sickness requir'd, (with Faintings,) *Testaceous Bolus's* with *Alcherm. s. m. & Fulap. perlat.* I was inclin'd to ha' Bled him; but a gentle *Diarrhæa* came on, and effectually abated the *Fervor*, (which was Violent;) after which, Affairs succeeded well. 'Twas observable, That the Scabs and Cough were a *Succedaneum* for the Defect of the *Salivation*. I must here take notice of another Observable: 'Tis the Common Opinion, That the Evacuations by Blood and Stools, either contribute to prevent these Disorders, when Epidemical; or at least, to render 'em
more

more favourable, if seiz'd ; neither of which happened in this Youth ; for he was both Blooded and Physick'd plentifully before, and yet I never saw any one worse Pitted than this Person was : I say not this to discourage Persons from these Precautions, but in order to a farther Enquiry how far they may be of use to what they are intended for.

I shall mention one of a mixt stamp. The first Day his Head ach'd : His Pulse was weak : He was thirsty and feverish. 2d, He had a *Lumbago* : Fever and Sand in his Urine, 3d, His Urine was sandy : His Fever still continues : This Night some Pimples appear. 4th, His Urine was sandy and bloody : Was watchful : *Petechiae* were on his Breast and Knee : Fever Continual. 5th, His Fever was fierce : His Urine not bloody : He slept little, and had a *Diarrhæa*. 6th, He slept little : He had a *Hæmorrhage* which lessen'd the Fever. 7th, The *Hæmorrhage* was large, and he was watchful, but the *Fever Hædical*, and Pulse weak. 8th, He had a *Hæmorrhage* : the Fever was violent, with a strong Pulse and great Heat : The Pustules were of the colour of the Skin and Sessile ; in the Legs they were *Petechial*, small and depress'd at top, of the confluent kind : His Thirst was great : He had a *Diarrhæa* : Now the *Petechiae* vanish. 9th, The Fever continu'd the same as on the 8th ; the Pustules begin to rise and inflame ; his Lips and Hands swell ; the Pustules are painful : a *Diarrhæa* for 3 or 4 times : He was watchful : He eat Cheese and drank Ale ; yet at Night slept well. 10th, His Fever continued violent : His Urine high-colour'd, with a Sediment. 11th, The Fever yet violent : His Urine *Citrin*, without Sediment : His Face swelled more ; but did not salivate, but expectorates : The Pustules in his Hands mature, and those of the *Abdomen* inflame : He rav'd, by drinking

ing Claret. 12th, Face and Hands maturate: *Abdomen* and Legs red at Bottom: High Fever: Thirsty: Urine plentiful and high colour'd: A *Diarrhœa* for 4 times: His Right Arm much pain'd: He slept ill. 13, Face and Hands matured: Body yet crude: A plentiful Flux of Urine made his Face fall: His Arm painful: High Fever: Slept ill. 14th, The Pustules in the Face scab and mature in the Body, but not in the Legs: He encreas'd his Fever and *Asthma*, and made his Urine bloody, by strong Liquors; besides, he had 7 or 8 Stools. 15th, Fever was high: The Scabs of the Face fall off: Those of the Hands and Body are fully ripen'd: The Legs half ripe: His Urine plentiful, *Citrin*; *Asthmatick*, and slept pretty well. 16th, The Fever vanish'd: The Urine somewhat bloody; but by the liberty of Drinking, from this to the 24th, his *Asthma*, *Delirium*, *Cough*, and *Weakness* encreas'd, and he died a Week after. It had been possible for this Gentleman to have escap'd the Small-pox if he had been regular; which yet was surprizing, considering he was then under the Operation for an *Empyema*: And the Fever was somewhat remarkable; for first 'twas the cool *Malignant*, then *Ardent*, and lastly *Hectical*; which oblig'd us to shift from the *Volatile* to *Testaceous*, and from thence to the cooling and diluting Medicines, according to the different Degrees of Fever.

There are a couple of Gentlemen who have boldly asserted, that Methods may be made use off to hinder Eruptions, whether in the *Pestis* or in the *Variola*: Their Sentiments are new; and I wish we may be assur'd of the Truth of them, by repeated Tryals; we needed not then wait for the hazardous Events from the Retreats of these Eruptions. Our *Sydenham* mentions a Person who dy'd of a *Petechial Fever*, and whose Eruptions and
Death

Death he blamed, for want of another Bleeding : And Boorhaave de variolis says, *Quamvis enim in hoc morbo raro Cogitetur de hac Indicatione, (viz. ut simul Inflammatorio ablato—sanetur status præsens & impediatur ulterior ejus progressus & proinde Caveatur futura suppuratio, Gangrana, &c.) & de hac Methodo imprimis (—quæ deprehensa est in omni Inflammatorio valere ne Inflammatio in Pus Gangrænamve abeat: quum in aliis omnibus succedat, hic nihil repugnet, Morbus variolosus sæpe sine variolis sit—Consistet illa-- in his 1. Mitatur Cruor (ad Citam largam pro gradu Mali moderandam aut repetendam Missione Sanguinis ut moles Crassæ minuatur & diluentibus Spatium Concedatur iterumque. Cita, larga,—Missio Sanguinis instituenda — debet Continuari in remissionem satis notabilem Doloris vel ad prima signa Deliquij Animi; debet repeti ex Consideratione redeuntium Symptomatum ad quæ tollenda prima instituta fuit; Crusta—absens finem definit) CASUS TAMEN, IGNARO MORBI MEDICO, SÆPE DEDIT SUCCESSUS PROBANTES TALEM ARTEM.*

These are his own Words, gathered out of his various References; and this Accident (of Ignorance I mean) I am told, has embolden'd him to follow this Practice since: How it succeeds, Time will make it out; but I believe there are certain Cases where this is utterly impracticable; for where the Persons are seiz'd with the *Variolæ* or *Pestis* of the Heftical sort, and under the Defect of Spirits; the more Blood they take away, the more Spirits they draw off, and there would be too few left to keep the Circulation on foot. Besides, I have seen some ignorant Trials (of which we have too many) succeed so ill; that I doubt, in this kind, the Project will not hold Water, whatever it may do in the *Ardent* sort.

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In the second Stadium of Eruptive Fevers. There is the same variety of States of the Fever: *Where the Eruption is compleat, and there is an ἀκυσία*: 'Tis then Folly to pretend any farther Business, but we ought to leave the Affair so; for we may, by tampering, remand the peccant Matter into the Mass, which may give room for it to play a more tragical Game than before. I need not point out that the distant Interval of the Pulse and calm Temper, will convince us of the Fever's having left the Patient.

It may, *Secondly* happen, that an *Intermitting Fever* may be join'd in this *Stadium* to these Fevers; and then great Care must be taken that these Intervals be not, by any busy Method, advanc'd into a *Continent*, much less into a *Continual Fever*. We ought here to be Spectators, and only order a due *Regimen* as the nature of the Fever requires: For here Nature of her self will conquer all Difficulties. *We must here again, as I have hinted above, be careful not to give the Cortex, till the Eruption is compleat*; and then, it is safe enough to extinguish the febrile Ferment, and to hinder it to create fresh Symptoms; though 'tis more useful in other Fevers, than the Small-pox: For 'tis first an ungrateful Remedy, and then, if *Intermission*, or even a *Remission* of the Fever comes on, a due *Regimen* is only requir'd, and generally suffices.

Thirdly, We often observe, in this *Stadium*, a *Remitting Fever*: And here the *Cortex* is useful, as in the *Intermitting*, after the Compleat Eruption; and by so much the more, because this being a halv'd Interval, there is more Occasion to obviate the greater Danger that may happen from Mismanagement, which may turn it too soon into a *Continual*. Besides, 'tis necessary to remark, whether the Fits retain to the *Ardent* or *Heſtical* Species, in order to the Knowledge of the *Medicines* or *Regimen*,

gimen, which may be proper in these sorts: And Notice, moreover, must be taken, that the nigher we draw to an *Ἀκμῆ* in all Fevers, we must make the less free with any Evacuation, (unless Indicated by plain and almost demonstrable Signs.)

Fourthly, When the Crisis is extremely Imperfect, and that Matter yet lodges in the Mass, (besides what is push'd to the Skin) so that the Fever proves Continual, as it always happens in Flux-Eruptions. Then the Case is so much the more deplorable, as the Strengths of the Patient are disproportionate to the Symptoms. Here, too, the Fever may be either *Ardent* or *Hectical*; and you must, both in Regimen and Medicine, alter as they require: For otherwise, if you should Bleed and Cool in the *Hectick*, or give Warm *Alexipharmacks* and *Blister* in the *Ardent*, the Consequence would be the Augmentation of those very Faults we would amend. And, by the one unseasonably given, you would, by adding more Fuel to the Flame, bring on all the Symptoms that are Companions to an Over-rarefaction of the Mass; such are, *Bloody Urine*, *Phrenzies*, *Comas*, *Resorption* of the Pus, and an entire Suppression of the *Salivation*, and various other fatal Symptoms; for these and many more may proceed from the Encrease of the Moment of the Blood, which will produce all these, as if the Quantity were really Encreas'd; for the Vessels will in each Section contain a larger *Moles*. And besides, 'tis known by Experience, that Regular Separations are not the Effects of Fluids Irregularly mov'd: That Irregularity depends either on too Rapid or too Slow a Motion of our Blood. So that on either hand, we have it in our power to Augment or Lessen the Motion: by which we may expect a Regular Eruption, &c. if we proceed as prudent Men; and the reverse, if Ignorance govern us.

I shall

I shall take leave to digress a little about the Patrons of the Cool and Warm Regimen and Methods. I shall only mention two of our own Nation, who have *seem'd* to favour the one or the other: And indeed if we examine their Practice thoroughly, we shall find the Difference was but a *seeming* one. 'Tis true we find *Sydenham* uses *Alexipharmacks* more warily; and *Morton* feldomer approves of *Bleeding*. *Sydenham* would not give *Alexipharmacks* without an apparent Necessity; nor would *Morton* bleed and give Coolers without an evident Reason: And yet when Occasion requires, we find them to change their Methods, but with too much Regard to their darling *Hypothesis*. The one had fix'd an *Inflammation in the Blood* for the Cause, and the other a *Venenum*: And we find the one, upon all Occasions, inculcating the *Effragationem Ebullitionis immanis*, whilst the other presses the use of *Alexipharmacks*, in order for Expulsion of the *Venenum*. I shall not here take upon me to determine how far these Authors Works may have influenc'd young Practitioners to follow their Steps; this is but too much known in our Isle, where many have fallen Victims to both these Hypotheses, as each Tyro of Physick's Fancy led him. But I shall shew you, that they themselves chang'd their Method, as their Reason guided them; which is enough for us to make use of our Senses and Reason as they did. We find *Sydenham* allow'd a little Sack, and in his later Experience allowed of Blisters; because, says he, — *Adeo ut in omnibus fere quos tractavi variolis laborantes, observaverim PULSUM IN CARPO SALIENTEM ÆGRE PERCIPI POSSE HOC TEMPORE*, (that is, at the Eleventh Day.) And *Morton*, in his *Histor.* 55. would have Bled some in the Progress; for says he, *FEBRIS autem cum Delirio conjuncta jam evidenter recrudescibat, cute universâ humore & rubore Erysepelato*

sepelatoe suffusa, atque miliari eruptione ubique in Interstitiis Exanthematum efflorescente, unde non obstante forti ARTERIARUM VIBRATIONE per totum Morbi Cursum fatale Prognosticon Protuli, PRÆSERTIM QUIA NON POTUI ARGUMENTIS A PULSU PRÆTER MOREM FORTI ET ROBUSTO V. SECTIONIS JAM CELEBRANDÆ VENIAM A PARENTE IMPETRARE. The One then Bled, because of the Strength of the Pulse, and overbearing Vehemency of the Fever; and Sydenham gave Alexipharmacks, and Blister'd, for the Weakness of the Pulse and Lowness of the Fever.

I come to the Third *Stadium*; where *Suppuration* is sometimes the Business of the Physician. Here, too, the Fever is the Compass we must steer by; which now is either quite *Vanish'd*, *Intermits*, *Remits*, or is *Continual*: And the Kinds also differ here, as in the other *Stadia*. And as enough is said in these Cases above, 'tis needless to annex the Management; only we must remember to begin from the weaker Medicines, and ascend gradually to stronger; for in such Cases we must not dwell upon a Method which does not prove successful: So where, in the *Small-pox*, the Putrid and Secondary Fever is violent, with a strong Pulse, great Heat, Anxieties, Phrenzies, gentler Coolers and Opiates are too weak, without Bleeding: Nay, in such a Case, I find that Opiates, unaccompany'd with the Bleeding, dull the Patients wonderfully, without any Advantage at all by them. Indeed, Evacuations are not now to be attempted without extream Caution and Consideration; but, after all, are not to be neglected, when there is an Indication, and *quod Cito fit, bis fit*. Where Nature has so far conquer'd the noxious Matter, as thoroughly to have exterminated it from its Mass, our Business is at an End, and Prevention of its Return by ill Regimen (and all Symptoms thence arising when reblended with

with it) is our Task. Thus in the Small-Pox, by preventing Symptoms that disturb this Order of Nature, by either quelling the exorbitant Commotion, (by which the Pustules are resorb'd,) or by animating its Motion (for the want of which they turn sessile and depress'd, and either imposthume not at all, or very little; hence *Delirium's*, *Subsultus*, and all ill Symptoms;) you may place your Patient in a safe Way, who before seem'd at the Jaws of Death. If the Fault be *local*, as it sometimes happens, it is not amended without a local Application.

It may here deserve a Question, Why Topicks have never been made use of to the Face, in order to promote a *Suppuration*; for if the Face continue to swell much, and the *Salivation* continue, Affairs go well; And if the Reverse happen, 'tis a dangerous Case. We find that the Face cannot keep up to this Pitch, if Evacuations drain the Matter through other Ports, or there be any Mismanagement in Diet or Medicine, or any other Symptom revulse the Humour. In short, the Danger of its Retreat is never over till the numerous little Inflammations are fully suppurated, that is, till all the Blood, (pure and impure,) impacted into the little Cuticular Fibres, and engag'd in such certain Rows of them, turns into Matter, and desembogues into so many Common-Shores; and thus leaves the Blood free to circulate calmly on, without any Impediment to Motion, or leaving any extraneous Matter in it to create any farther Fever. Till this, I say, happens, we are obliged to steer with great Caution; for Resorption of any Parcel of this stagnating Matter too often produces Symptoms irremediable, though under the best Hands. Circumstances being put in this Light, 'tis amazing to find that Physicians never have attempted Topicks to hasten Suppuration in the Face, from whence so

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many

many unforeseen Accidents hurry us headlong into the Grave; for where the Design is Suppuration of many Phlegmons, and the Fever is a Symptom of the Pain attending the *Tubercula*, it is natural to believe what we would apply to one large *Phlegmon* to ease and suppurate it, would hardly fail to have the same Effect upon many. And in Effect it has been found, that *Discutients*, &c. applied in this Case, have not fail'd of their Effects, as is evident in *Diemerbroecke Hist. 13. De Variolis & Morbill.* Where he tells, *That one Mrs. Cowper, by the Help of Cinnamon-Water rubb'd on the Face, prevented any Eruption there.* Hence are *Epibems* of Saffron, Rose-Water, Women's-Milk, and such like, applied to the Eyes: Hence Astringent Gargles for washing the Mouth and Throat: Hence Saffron-Stays dipp'd in Women's Milk, and applied outwardly to the Throat. We then are of Opinion, that the Restraining Faculty of the one, can hinder the Eruption of them in these Parts; and that the discussive Force of the others can disperse the Matter of the Pustules. In short, it is reasonable to believe, that as we suppurate a *Bubo* in the *Pestis* with good Success; nay, and we look upon it as good Practice, to hasten the Suppuration of it; I cannot see but, by a Parity of Reason, we might safely suppurate the Pustules of the *Variolæ*: For whatever Symptoms happen from the Retrocession of a *Bubo*, may also happen in the Small-Pox from the Pustules returning or turning Sessile. Now if these are possible; Why not Suppuration promoted there also? And there may be this Comfort in the Trial; that I see no Inconvenience can attend it, but much Good.

Another Quare is, Whether it be good to cut the Blushes e're they scab? I shall mention some Authorities, and give in my own Sentiments. *Riverrius, Diemerbroecke*, and some others, say, That
Expe-

Experience has taught, that when they are cut, they are longer in curing, and make worse *Escarr's*; and therefore they believe it better to leave it to Nature. *Mayerne* advises cutting them when they are full, deterges them, and so lets them scab and dry. *Langius* says, *Where they are watry, undigested, livid, and from the Air, he would open them; for then the Matter is very corrosive and exulcerates the Part, and so makes a deep Pit; but where they are thick, white, digested, and concocted, he says there is no Occasion.* The Practice at present is in disuse. And so far I can say by Experience, That if the Cuticle be separated, and a Scab come upon it, the *Cicatrix* is very ugly; and the oftener they happen to scab, and fall off, the more they are mark'd; as was very evident to me in 1710, when the Small-Pox were epidemical, and very fatal, one of my Patients had them repullulate four Times, and the *Cicatrices* were the Ugliest I ever saw. And in the Main, I see little Advantage gain'd, unless we can hinder the ulcerated Parts beneath to ouze, which is dangerous; and therefore 'tis, at least, not be done till a complete Maturation, and then the most of the Damage is over.

Having run through the various *Stadia* of these Fevers, I come now to the last, (*viz.* the *Declension* or *Desquamation.*) In most other *Eruptives*, this is the third; but in the *Small-Pox* 'tis the fourth. If there are no Remains of a Fever, the Patients are in Safety; or if the Fever *intermits*, *remits*, or a *Hætick* come on, cooling *Decoctions*, and the *Cortex* will reinstate them; as I lately experienc'd in a Child of three Years of Age, whose Sister died *comatous* and feverish. She, I perceive, was held, as the Child I am going to mention: But the Fever, by a preposterous Method of *Catharticks* repeated, (and some other Mistakes,) miscarried. And from hence I was called to this Child.

The Scabs were quite vanish'd: She had a Cough upon her, an *Anorexy*, and a *Hettick* Fever. I order'd ʒ iij. of Blood to be taken away: I gave it ʒ iij. *Cort. peruv. opt. subt. pulv.* to ten Grains at a Time, and to drink after it a Mixture of *Aq. Laet. alex.* ʒ viij. *Syr. Balsamic.* ʒ i β. From this Time forward, she was relieved, and in five Days her Pulse grew calm. She had no Heat: Her Spit was concocted: She regain'd her Appetite: Her Urine, from intensely Red, became *Citrin*: And in twelve Days she was perfectly recover'd, and grew plump. If the Fever be still Continual, they are in imminent Danger, and generally go off *anbelous* and *delirious*.

They in the *Morbillose* or *Scarlatine* Fever undergo the *Stadia* I have now nam'd, (save Maturation,) and they are afflicted with all Kinds of Fevers before the Eruption, at the Efflorescence; and after it is over, as I have experienc'd. And therefore all the Methods above named must be used as Occasion serves.

I had the Misfortune to be called too late to a Gentleman, who, after a sharp Fever, was afflicted with a *Diarrhæa* and *Vomiting* [*Cholera.*] His Scarlet appear'd, but presently retreated; and his Throat swell'd; and he died in a high Fever in four Days. Doubtless, if the Apothecary had blooded him, they would have broke out regularly, and his Life might have been saved. I was called, two Years ago, to a Girl, who, at the Time of Eruption, had a violent Fever on her, was kept in a hot Room in Bed, and her *Regimen* was warm; whence she was restless and watchful, and under Danger of of *Deliria*: But by a cool *Regimen* she immediately grew better: The Scarlet appear'd regularly. She rested, and soon grew well. *Morton* very well observes the succeeding Symptoms to be either *Colliquative*, and to require Opiates; or *Inflammatory*, and require Bleeding. Both which I have found true.

true. And I lately found the Colick (in a Boy, after the Measles) to be taken off by Bleeding, and Milk-water; because of a fix'd Pain, and his being very feverish.

Here I shall crave Leave for a small Digression on the Pustular Fever in 1710, which was epidemical, and very fatal. They begun with *Algors*, but not remarkable; which are certain and faithful Fore-runners, and the Date of any Fever. Next this, some were seiz'd with Headachs, others with a *Lumbago*, and many with a *Vertigo* only. But the Temper in most was so mild, that unless the Pulse was narrowly felt, you would have been deceiv'd into a belief that they were only hypochondriacal: The Pulse was *myurus*, very frequent, and beyond a hundred Stroaks in a Minute, although the mild Temper and Sighings put on the Shape of Hypochondriacism; so seldom did they at the Beginning complain of any violent Symptoms: For their Spirits were stole off quietly; and 'twas observ'd they died without any Struggle, and no Pustules appeared. The stubborn Watchfulness brought on, the 4th or 5th Day, either a *Coma* or a Phrenzy, according to the Constitution of the Decumbent, that did not yield to Remedies. The Urine, at the Beginning, deposited a Sediment pretty laudable, and they fell into spontaneous Sweats, Pustules broke out; and thus, for a while, Affairs seem'd to prosper pretty well. But if any Medicines were given by such as were called in, the Urine immediately became confus'd, and they turn'd comatous or phrenetick. In other Constitutions, it was observable, that if Sweats came on, the Urine remain'd concocted, Pustules broke out, Symptoms abated upon their continuance, and they presently recovered; nay, at the first Appearance of it, this was farther remarkable, that such Physicians as thought they had found a certain Method to relieve them, and

that by Sudorificks, did at last find their Mistakes in most others, not without Confusion: They either died or recover'd in eight Days. This was certain, that some mercenary Men, at this Time, did, contrary to an Order (then in Force, for Ships observing a Quarantain, if from the *Baltick*) unload a Vessel from *Sweden* with Flax, &c. and a certain Occasion obliged most of the Inhabitants, out of Necessity or Curiosity, to be very near the Place of unloading: And immediately upon this, this Fever became so common, that every House had almost its Share; and the Merchant, who had been guilty of this Misdemeanour, suffer'd, and fell by it himself. But a Frosty Season succeeding, it became less frequent; and, at last, by a strong Frost, quite vanish'd. I shall subjoin some Remarks on it, and then shall proceed.

First, If the Patients had a sharp and pungent Heat on them, along with a strong Pulse, and their Urine turbid, confus'd, and milky; although they sweat, these were symptomatical; and the Eruptions, thrust out under these Circumstances, were not such as diminished, but added to the Symptoms. But where the Urine continued, concocted, or Concoction had preceded, and it turn'd clear or stramineous, and that the Pulse and Heat were not too strong; these Sweats and Eruptions were critical, and the Fever vanished, or turn'd Remittent, and so in a small time was breathed off.

Secondly, Where the Pulse was weak, and the Heat imperceptible, or near the natural; then the Eruptions did not succeed, nor could the Blood be clear'd of them; and then the Case was desperate.

Thirdly, That no Evacuation (even a Glister) succeeded well at the Time of the Eruption, if the Pulse was weak and low; but that they either (in Proportion to the Evacuation) caused them to disappear, or turn sessile and discolour'd; and then begun

gun afresh all the ill Symptoms, till the Blood was again (which was very hard to do) enabled to part with them.

Fourthly, That Trouble of Mind, or Concern, caus'd these Fevers to turn up to the Head, and either made them turn *Phrenetick* or *Comatous* in a short time.

Fifthly, Where there was a large Quantity of Spirits (as was easily guess'd by the Strength of the Patient, and a large Pulse) small Mistakes did little Harm; but where there was a Penury, any Error kill'd them irrecoverably.

Sixthly, That after the Declensions of the Spots, if the Urine was concocted, gentle *Diarrhæa's* did Service, and, by degrees, they recovered: Nay, if they were forc'd, by Lenients, and if it was upon a concocted Urine after the State, and the Fever was long in going off, they succeeded well.

Seventhly, Coughs were a good Sign, if the Eruption had vanish'd, and the Urine were concocted, and the Expectoration carry'd off the Fever, and prevented other Accidents.

Eighthly, If the Urine settled, and the Pulse grew strong after the Sweats, and more soft, it betoken'd well.

Ninthly, The *Cortex* avail'd little before the Eruption, as is usual in other Eruptives, but kept them in a neutral State, and they suffered long for it; but after the Eruption, it succeeded well enough.

Tenthly, That tho' Sweats succeeded in some who did follow this Method, from Nature's Instigation, I mean either a previous Coction, or a Serous Blood; yet it was found not to succeed, unless they continu'd them uninterruptedly, and gave them the gentler Alexipharmacks, such as Testaceous Pouders, Julap. Perlatum, and such mild Medicines, as only supported the Spirits, without heating the Sick;

for if you gave them to such a Degree as any ways heated, the Sweats stopt, and they dy'd.

Eleventhly, All Evacuations were to be made use of from the very beginning ; or they seldom, if at all, succeeded : but if you made use of Bleeding, Sweats, Emeticks, or Lenients from the beginning, Affairs succeeded well enough ; only if Lenients were given after Bleeding, the Sediment in the Urine was plentifully thrown off, and the Fever, in some, was check'd in the Bud. As to Diaphoreticks, it is to be own'd, they succeeded, in some, at the first, who were inclinable to Sweats, without the Danger of over-heating ; and in the older People, and in such whose Blood was not too Viscid, but Serous and Phlegmatick : However, the Method of Bleeding, and Lenients, with gentle Pearl Juleps, afterwards compleated the Cure most safely.

Having said enough of this Matter, I shall, under the next Chapter, recite an Observation or two, to illustrate this Affair.

C H A P. V.

Of Crises.

A *Crisis* is a sudden Change, to better or worse, in Fevers, from *Κρίσις* to judge ; because by this Change we pass Judgment. When the Blood contains any Heterogeneous Matter, and a struggle is rais'd in it to throw off this Load, it is judg'd to be ready to part with these Particles, when the Urine drops a Sediment, and the State is at hand ; so the *Crisis* commences when the Blood calmly discerns its noxious Particles : But whether Nature will do it by the Pores, Intestines or Lungs, is not always easily determinable ; for Sweats, Diarrhoea's, Coughs,

Coughs, Jaundices, and even Abscesses equally terminate Fevers; for 'tis not the Figure, but the Patency of the Emiffaries, that determines the Paths of the Secretions in different Persons; so that whoever has by Nature the Pores of the Intestines more patent and more yielding than those elsewhere, will throw out these Morbid Particles by them. That it is not the Figure that passes these Particles, has been made evident, by shewing, that all the Arteries, in every Section of them, are circular; and by demonstrating that Glands are but Complications of these Arteries.

In *Crises* there are Three Cases.

First, *Where the Urine is gross, thick, turbid, milky and confus'd, or where Suspensions follow a laudable Sediment, 'tis call'd the* *σφοδρά ἀναίτελα καὶ μέν- νον*. This is an Argument that the Morbid Particles lie buried in the *Sinus* of the Blood, and are so intimately blended with it, that Nature is in danger of being surmounted, and that the *Crisis* is not yet begun; or if begun, has gone backward: And therefore, that all Evacuations, Eruptions, or whatever Attempt Nature makes under these Circumstances, are Symptomatical; and by furthering any of these, 'tis odds, but that you destroy your Patient: Which is confirm'd by *Sennertus*, saying, *De Febre Petechiali, ubi Coctio in Urinâ Petechiæ expellendæ, alias non*. I am not ignorant, however, of what *Forestus* says, that *Crisis agonistica plerunq; sanat. L. 2. obs. 26*. By which he means nothing farther, than that, if any gentle and moderate Evacuation, which does not weaken the Sick, happen, such as a gentle *Diarrhæa* in the Small-Pox, which does not cause the Pustules to settle, nor produce any dangerous Symptom, such as Sweats before a *Crisis* in a Fever, which neither disturb the Head, nor introduce any other Accident, because they are gentle; then these may be overlook'd: But if such
continue,

continue, and become considerable, inasmuch as the Strengths of the Patient decay under them ; then it is necessary, according to the urgent Symptoms, *either to quell the Commotion*, by Bleeding, Dilution, and such like, (only having regard, if the Fever be near the *ἀκμή* ;) or you must, *if the Motion be too languid*, support the Spirits with Alexipharmacks, or Blisters must be apply'd, till a better Chance happen. *Sometimes, here, the Cortex is of Use*, if there be Remissions, and you suspect the Nature of the Fever, (but *not in Eruptive ones.*) This is call'd, *The State of Confusion.*

I shall subjoin an Observation or two, to confirm these Sentiments, and shall proceed to the other two Cases.

Anno 1710. I was call'd to a Gentleman, who finding himself disorder'd, was twice Blooded : Some time after he took his Bed ; and when I came, I found him treated with Testaceous Pouders and Cinnabar, and with Cordial Juleps, stock'd with Malt Spirits, which are strongly Empyreumatical ; he sweat plentifully, and Red Pustules appear'd copious on his Breast ; his Heat was sharp, his Pulse weak, his Urine was milky and turbid ; hence I boldly pronounc'd, that these were not Critical : Next Day his Urine was Crude, as before ; and notwithstanding that we withdrew all strong Cordials, he sweat abundantly ; and after it, came on a Fetid Diarrhœa very plentifully, his Pulse was larger, and he unexpectedly went off Lethargick ; and after his Death, Bloody Stools were thrust out, which doubtless had been occasion'd by the neglect of Bleedings, and by the Administration of the hot Cordiac's.

The same Year another Gentlewoman consulted me, she was afflicted with a great Head-ach, and was Plethorick ; her Heat was moderate, and Pulse not strong, so I only took off 3v. of Blood, which
reliev'd

reliev'd her Pain; I advis'd her to go to Bed; she fell into universal Sweats, and her Urine was concocted; while the Sweat, her Tongue continu'd moist, and she grew better, and her Pulse stronger, and more undose; but whenever she suppress'd the Sweats, as she often did, her Urine turn'd muddy, and she was troubled with Vomitings; but upon taking a little *Aq. Pulli*, she vomited three or four times, by which her Spirits were exhausted; but by some Bolus's of *Pulv. e Chel. c. Bezour. Lap. de Goa & Alcherm.* every fourth Hour, with a little of her *Fulap. perlat.* her Sickness abated; her Urine, from lacteal and confus'd, settled with a laudable Sediment, and her critical Sweats return'd; but being again weary'd with the constant Sweats, rising out of Bed and cooling her self, her Urine a second time became muddy, and now had only Suspensions in it; her Tongue grew dry and black, and she grew sick and fainty, and her Pulse intermitted. Upon renewing the Bolus's with *Serp. Virg.* to some few Grains, and applying a Blister to her Neck, the *Papillæ* appear'd next Morning. I would (from the weakness of the Pulse, and moderate Temper, and a comatous Disposition) have apply'd more Blisters, which were only consented to twelve Hours after by the Assistant, who then saw the pressing Danger of omitting them longer; but neither they, nor *Volatile Salts*, added to the Bolus's, cou'd awake her, for she dy'd Comatous next Morning.

2ly, Where the Urine is concocted and drops a laudable Sediment, or has a Nubes in it that lasts for many Days, which unites more and more, and at last settles to the Bottom. This fairly denotes a Separation; and such as *Riverius* adventures to pronounce well of, even in Pestilential Cases. The Sediment in Urine to be laudable, *Bellini p. 14. de Urin.* says, *Sedimentum debet esse figuræ retusæ Pyramidis*

ramidis vel portionis Sphaeroidis cum basi in fundo vasis: I shall add, that it ought to be equal, not farinaceous, *νεμενῶδες*, nor like *Sperma Ranarum*; for these are either Tokens of Crudity or Overcoction: But it ought to be chylous, *inflar Genitura vesicalis*, and lie and look like White Clouds. When the Urine has been thus à *Statu*, and Sweats, or any other Evacuation supervene, they are critical, and to be encouraged, whether the Sediment continue, or not: Nay, 'tis better that it should vanish, because 'tis a Sign of an entire Victory; and, I doubt not, but our *Febris Anglica Sudatoria* had a Concoction previous to its Sweats.

However, I have too often found the Urine to settle well and laudably, and yet the Patients have labour'd under some troublesome Symptoms; which seems to be a sufficient Reason to conclude, that tho' the morbid *Miasma* do part from the Blood; yet that there is too great Plenty of this Matter still resting within, and that the *Separation* is only partial, and not easy to be expell'd, but by a nice Management, and that the *Crisis* that follows is *imperfect*. This is the Case in the *Flux-Pox*, where, during all the *Stadia* (even of Maturation, and during the Salivation) the Urine often settles. If indeed Affairs succeed without this Concomitant Sediment (supposing it to have preceded) 'tis a better Sign than if it yet deposits one; because it argues the Matter less copious in the one than the other. But if, notwithstanding the Salivation, (which in all Fevers is a Critical Evacuation,) the Urine settles, there must be great Plenty of Matter in the Blood; and if the Strength of the Patient fail not, it argues that there is Matter enough to supply the Eruptions, as also for any gentle Evacuation attempted by Nature over - and - above: So that in a *Miliary Fever*, the gentle *Diarrhœa* is useful. Hence, in the Small-pox, the Salivation,
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Flux of Urine, and sometimes the *Diarrhæa*, when gentle, are of use, as is the Spitting Cough, or Scabs falling off, and repullulating in the same Disease. Hence it appears why *Riverius*, in his *Febre Pestilenti. Monspeliens.* blooded the Patients, tho' they had *Parotides Criticæ*; for the Evacuation was critical, yet it was not sufficient to evacuate the whole Matter of the Fever; since notwithstanding this Eruption, all who did not Bleed, lost their Lives. I then assent to him, when he says, *Non erat capax totam materiam morbificam excipiendi.* Hence it appears why *Sydenham*, in his *Febris variolosa*, tho' the Urine was concocted, and Sweats came on, took Blood from his Patients; being only a *Partial Crisis*, (if any at all, which is another Question:) Hence Bleeding, in his *Putrid Fever in the Small-pox*, was useful, the Matter being only imperfectly exterminated. 'Tis therefore necessary, where the Urine is concocted, and yet Symptoms abate not, upon some Evacuation that is critical, because insufficient, to proceed to some farther Evacuations, that may probably have the desir'd Effect, of either disposing the Blood to separate more effectually, or make it do so, if the Strengths of the Patient will allow: For otherwise 'tis a dismal Case, and hard to manage the Balance level; since over-doing either in the warm or cool *Regimen*, is equally fatal. Indeed, in Eruptive Fevers, where the *Crisis* is not very distant from the Beginning, we may make free with proper Evacuations, if indicated; but in other Cases, where the *Ἀκμὴ* is at a greater Distance from the *Apparatus*, we must use Evacuations very warily: But if Nature be slow in ejecting her Enemy, or the Burden be great, or do it but partially; we must then try the most gentle and probable Evacuations, to supply this Defect; and that is safest done by gentle Catharticks, or rather Lenients, as I have experienc'd in several, even in a
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critical *Parotis*, but partial; for such carry off the Load *per Epicrasin*, and gradually, even in Pestilential Cases. If what *Sanctorius* advances, held in our Clime, it would be more probable, by a Fourfold Proportion, according to Dr. *Pitcairne*, that *Diaphoreticks*, given upon a digested Urine, would carry off the offending Matter, than *Lenients*: But this being found by Counter-Experience to be false, as Dr. *Floyer* has assur'd us; for that we lose only, in the Space of one Day, 6 or 8 Ounces of *Per-spirabile*, in the room of 30, 40, or 50 Ounces lost in *Italy*: And it is probable that, in our Climate, we perspire as much as the same Surface (equal to that of our Bodies) loses in Exhalations on the Sea; for then 17 or 18 Feet Sq. evaporating 7 or 8 Ounces of Vapours, our Body of equal Surface loses no more. And if we add half an Ounce (*quam proxime*) lost from the Surface of our *Bronchiæ* (which, to compute, I found out a peculiar Method,) the Exhalations of Vapours from the Sea, and the *Per-spirabile* from our Pores, will in all Climates bear a near Proportion: So that in *England* we shall lose 8 Ounces, whereas in *Italy* they lose 50. Now as the above-mentioned Gentleman concluded it better to give *Diaphoreticks* than *Lenients* in a Fourfold Proportion; I may now conclude from Reason, back'd with Experience, that *Lenients* are, upon all Accounts, safer in our Isle, than *Diaphoreticks*; because there is a greater Patency of the Mouths of the *Intestinal Glands*, than of those of the *Cutis*; and hence more can (tho' only upon Concoction just begun) be evacuated; and less Disturbance and Commotion rais'd, than by *Diaphoreticks*; which can only be safely given after the State: And they are moreover so often contra-indicated, that they are dangerous, in that they often raise Phrenzies, by forcing the Blood too impetuously into the cortical
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and callous Substance of the Brain, from whence there is often no Possibility of remanding it.

3dly, *If the Patient be seiz'd with a Fever, and his Urine comes to a Concoction, and immediately from a true and concocted Sediment, it either turn pale or citrin, without any Hypostasis; if Symptoms abate, and the Fever cease and diminish upon it; 'tis an Argument of a salubrious Translation: Examples of which I have often seen, particularly in the Fever of 1710, where the Urine turn'd pale, and the Pustules broke out, and left the Patients free from the Fever, and all its Symptoms. But if the Reverse happen, that is, if the Fever continue, and Symptoms become formidable, this is a fatal Translation, and under it the Spirits will sink, and 'tis of the last ill Consequence; and all convenient Helps and Remedies must be timely made use of, as has enough been hinted at in the foregoing Chapters. 'Tis to this Head is referr'd that of Hippocrates, Quibus pellucidæ & albæ sunt urinæ, malæ: maxime vero tales in Phreneticis apparent. L. Epid. 6. S. 4. A. 72.*

Hence I conclude, that a concocted Urine need not always concommitate a critical Evacuation or Eruption; and, in effect, we find it does not; but that however it ought always to precede one: And hence I infer, that Rhodius, C. 1. Obs. 28. was mistaken, when he tells us of a Petechial Fever, taken off by Sweat, tho' the Urine was crude, in the Person of Angela, Daughter of Garoderina, non prægressis notis cœtionis. And Hippoc. L. 1. Epidem. Com. 3. Ægrot. 7. Also L. 3. Epidem. Com. 1. Text. 1, 4, & seq., Ægrot. 3. And Epidem. Com. 3. Ægrot. 3. makes mention of some Observations that have relation to this Head: But whoever considers, that in the First Observation, there was a previous Coction, such as laborious People have, and is sufficient for 'em, as is shew'd above. In the Second, before the Delirium Criticum (as some term it) mention

tion is made of the Urine. And in the *Third*, he says, *Urinæ tenuēs ad judicationem erant*, which followed a Suspension. Thus it is usual either to have a Sediment continue, or, which is very common, to appear crude at the Instant, or some time before the Eruption, which entirely takes off the Disease; and this Date is too late to observe what preceded: And besides, most hitherto have believ'd, where the Matter was entirely deposited on the Organs or Parts, that the Urine was then deceitful: This is evident in Pleurifies, where, before the viscid Matter be impacted on the *Pleura*, the Urine has a laudable Sediment in it; but when 'tis fix'd on the Membrane, none at all: Nay, sometimes, in Fever-fits with a Pleuritick Pain, is by all observ'd to be *stramineous* during the Pain. *Morton* says, *urina etenim, ut in spasms vehementioribus solet, erat clara ac tenuis*; for if the Urine settle at this time, the Case is very hazardous; because 'tis a Demonstration of too much Plenty of that Matter in the Blood. In *Elephantiasēs*, if they retreat into the Mass, as I have observ'd them to do, upon tampering, they create *Asthma's*, Colicks, and many other Symptoms; but when, by a regular Method, they again begin to appear on the Skin, the Urine first shews us they are about to do so, by dropping a Sediment; and when this is done, it ceases to do so any farther: For the Blood having parted with its morbid Contents into the Skin, it is freed of them, and so is the Urine. And this is a constant and regular Proceedure in Nature, as far as I have had Leisure to observe.

I am apt to believe the very *Pestis* itself seldom begins without a previous Concoction in the Urine. And in effect, *Willichius in Probation. Urinar. p. m. 300.* tells us, that he discover'd the *Pestis* to be approaching from the *ἔργον ἀρριμωδές*; however, in this Matter, most Authors have been so silent, as to take

take no Notice of it. Although they would not have the Eruptions expell'd, unless Nature had shewed the Way by a previous Coction, which doubtless must be early here; because the *Bubo's* generally appear the 4th Day: But at the Time of the Eruption the Urine don't always settle.

Hence *Hippocrates*, *Aph.* 64. §. 4. says, *Quibus Urinae Crassæ, grumosæ, paucæ, non sine Febre, Copia ex his Succedens tenuis juvat. Tales autem maximè prodeunt, quibus ab Initio aut brevi subsidentiam Continent.* For it signifies a total and salutary Translation. And this is, as I have hinted above, when the *Crisis* is not much distant from the Beginning; and 'tis a regular Procedure of Nature.

C H A P. VI.

Of Symptoms.

DE *Lassitudine Ulcerosa*. It is one of the first Symptoms that attends any Fevers; and because they complain of Soreness, as if bruised, therefore 'tis called Ulcerous. This Soreness may proceed from the Miliary Glands, altered by the Stoppage. The External Air has Effects enough upon them, to make us think, that, by their Contraction, (and that so suddenly) the Humours not having forgot their ordinary Course, may some Way distend them beyond their usual Tone, and may occasion this troublesome Sensation of Soreness. And what may add Weight to this Opinion will better appear, if we consider what Symptoms ordinarily supervene the too hasty and imprudent Attempts made upon praternatural Evacuations, where nothing is more common than to have the Part, or adjacent ones, loaden with a Quantity of the Matter which was us'd to

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be thrown off by that Port, and produce Symptoms more or less prejudicial, in Proportion to the Parts and Humours then reigning. This leads me to believe, that Weariness may proceed from some Plenitude in the Fibres, where Motion is perform'd; for by the violent Motion of the Blood and Spirits into the Muscles, or the Stagnation of them there, the Fibres may be over-distended, and grow unwieldy and unfit for Muscular Motion; and occasion this Weariness. But as it requires no distinct Methods from the Fever it self, no farther need be said of it, than that a Languid Fever, and an Ardent one, must guide us.

A Vertigo. The Physicians heretofore believ'd it to proceed from the *Rotatory Motion of the Spirits*; but till the learned *Bellini* took it under Consideration, the manner of their Motion was not fully explain'd. 'Tis certain that Objects, whose Rays fall upon the same part of the *Retina*, appear to be in the same Place, or at rest. And on the contrary, an Object at Rest, then is thought to be mov'd, when its Image is painted successively in different Parts of the *Retina*, supposing the Eye, unmov'd.

Now the *Retina* and Object are the only Requisites to be consider'd, whether an Object really moves or rests: But when there is a *Deceptio Visus circa motum*; an Object appears to move, when we know it is at Rest: Therefore we conclude, since the Object moves not, the *Retina* only must move. Which this Gentleman considering, immediately begun to think how 'twas possible for the *Retina* to be moved; which could hardly fail to occur to any Person who knew the Structure of the Parts so well: Such useful Discoveries Mathematicks can and do make! The Arteries then, when over-distended by Accumulation, or the encreased Quantity in flow or violent Fevers, lift the *Tunica Retiformis* higher than usual. And this *Dimotion* happens in every

ry *Diaſtole*; ſo that in every Pulſation the Patient becomes vertiginous in Proportion to the Diſtenſion. The Caſe of Drunkards makes this more evident; for having ſtretched their Veſſels with a Quantity of an active Liquor, the Carotid Branches are overfill'd, and occasions this *Vertigo* uſual to them. But as no Function is hurt by it, no particular Regard is had, in the Cure of it, diſtinct from the Cure of the Fever in general; which, as I have ſufficiently inculcated, is as the Motion offending, which indicate the cooler or warmer Regimen and Methods.

Cephalalgia, or *Head-achs*, are occaſion'd by Diſtenſion: For the Veſſels are either ſtretched from the too rapid Stream of the Blood, whence the Veins cannot ſo ſuddenly return the Quantity contained; or from its too languid Motion; from whence it comes to paſs, that the viſcid Particles, clinging cloſe to the Walls of the Veſſels, obſtruct its free Paſſage into the Veins, and conſequently its free Return.

Now according to theſe differing Manners of being produc'd, the Methods taken, ought to be various; for in the former Caſe the Heat is ſharp and remarkable, and the Pulſe is ſtrong: And therefore Bleeding is abſolutely neceſſary, to prevent the rending the Veſſels or *Hæmorrhages*; and externally apply a cooling *Epithem* to the Forehead of *Fol. Roſ. rub. coct. cum Aceto acerrimo in patinâ ſupra Carbones cui addi poteſt Sacch. Saturn. ad gr. aliquot*, or ſuch-like, and make uſe of *Opiate Emulſions*, or ſuch gentle *Opiates* as will allay the Pain; for nothing, ſave ſuch Emulſions, with the Cold Seeds, or *Syr. Papav.* in Barley-water, are ſafe. And evacuate the *Fæces* (which, diſtending the *Inteſtines*, preſs upon the *Uicks*, and hindring the Deſcent of the Blood, the upper Parts are loaded in Proportion to this Impediment) by Glyſters of *Decoct. Comm.* or Houſe-Glyſters.

sters. But if the Heat be imperceptible, and the Pulse weak and small, then the Pain is gravative; for then the Blood gravitates on the Membranes by Accumulation. In this Case give the *Tefaceous* and *Volatiles* for the Fever, give them a Glyster for the same Reason as afore-named; and clap on a large *Blister ad Nucham*, to revulse the Humours from the Head, to add a brisker and livelier Motion to the Fluids, to hinder their Stagnation, and to evacuate Share in such a Manner as the Nature of the Fever can allow off.

Deliria are Dreams of those that awake; and are Incoherences, occasion'd by a Motion of the Spirits disproportionate to the usual Mean of Nature; for if the Spirits, whose Motions are in Proportion to that of the Blood, move in too full a Stream, the Tubes of the Brain become over-tense; and if they are too few, these Channells are not stretch'd enough, and their Course is interrupted, and the Brain too scantily supplied. But though 'tis difficult to explain how our *Idea's* are confus'd, (for Experiment here is impossible;) yet Experience evinces us, that in either State we talk inconsistently. *Phrensies* are the Result of the former, and Simple *Deliria* of the latter State. However, though God has united a Form to a Material Being, and the secret Manner of their Communication cannot lie under our Trials; yet we can come so near as to say, that our *Idea's* are the Spring of our Actions; that these *Idea's* are conformable to the Motions of the Blood and Spirits; and that if the Fluids move on in a Hurry, our *Idea's* and Actions are furious; if calmly, they are moderate; but always in this Case unreasonable: For Judgment and Reason are the Product of a certain Proportion of sound Spirits, and a right Structure of the Brain. The former is evident from an *Exhaustion* or *Aquosity* of Spirits; and the latter, from Prejudices receiv'd.

ceiv'd by Falls. Whatever then destroys the blessed Mean God has been pleased to place us under, in any eminent Degree, That infallibly impairs our Senses, and causes a *Delirium*.

The Remedies then of *Deliria* cannot always be by the same Methods, since the Reasons differ so much. In the former Case of *Phrenzies*, the Heat of the Blood is generally pretty remarkable, and the Pulse is strong, (unless the Blood be too much impacted; for then 'tis small, because the Oppression, being great, obstructs the Exit of the *Liquidum Nervorum* into the *Villi* of the Heart; yet the Actions are still furious, they have Strength enough, and their Eyes are inflam'd.) When the Pulse is under these Circumstances, you must Bleed; where once, often, suffices not, and make use of the cooler *Regimen*: Let them sit up sometimes; and after a while, give *Lenients*, (if indicated from the Heat abating, and Sediment in the Urine,) at least use pretty sharp *Glysters*: And lastly, *Opiates* to quiet the *Vigiliae*, which are the constant Concomitants of all *Deliria*. If Bleeding cannot take Place, (because of their Weakness, or the Nature of the Fever,) *Cupping* (at least) will; where four Ounces weaken not so much as two from the Arm, though the first be Arterial, and the latter only Venal: Because, as *Kiel* well observes, the Contraction and Depletion are in the former done in the same Time, where there is only a Priority of Reason between the Contraction and Depletion; but not often so, in the latter. You must also apply to the Soles live Animals split, or *Theriac. Androm.* to allay the impetuous Motion upwards, or *Pediluvium Fullerii* for the same End. I don't approve of *Emeticks*, if the Blood-Vessels are already over-stretch'd; for thus you may impact the Blood so violently into the soft Substance of the Brain, that it will be impossible ever to recall it. In Effect, he that consi-

ders how much Vomiting hastens the Circulation, or gives himself Leisure to view a Person Vomiting whilst he is bleeding at the Arm, will be convinced of the Truth of what I say. And over-and-above, I have seen the ill Effects of it in *Prenetick Fevers*, which ought to deterr us from the Use of them. It is every where believed that Phrenzies do depend on this Cause; which is confirmed by the Learned *Baglivi*. And I remember to have open'd one who died *phrenetick*: Eise I could separate the *Cranium*, a considerable Quantity of Blood was spilt; and after its Removal, I perceived the Vessels even down to the *Corpus Callosum* strangely over-stretch'd with Blood, and the *Sinus Longitudinalis & Laterales* also. This I believe the rather to be the Case in furious Phrenzies: But the Person, I now mention'd, died of a Comatous Phrenzy. Some Years ago I was called to one, who was seized with a Putrid Fever: He was blooded; but the Fever shortly turned up to his Head, and he fell into a *Delirium*; neither was his Heat great, nor Pulse strong. I order'd him a Blister: But at my Return from the Country I found him worse, and perceiv'd him to have rav'd more from the Blister, and his Tongue grew dryer; and withal, finding his *Facultas Locomotiva* vigorous enough, I order'd him a Glyster; after which he was Cupp'd, to no Effect, for no Blood would come. I then order'd bleeding in the Leg, to some Ounces; after which I gave him a Mixture of simple Waters with *Volatile Salts* and *Laudanum*, to be given at such Intervals as to give him Rest; and applied *Theriac. Andromach.* with *Ol. Mac. Chym.* to his Soles. And thus in three or four Days his Pulse grew stronger, his Urine settled, and he recovered.

Where the Heat is small, and the Pulse is weak, and they grow weak, with *Subsultus Tendinum*, and *Coma's* under these; then you must steer another Course:

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Course: You must apply Blisters to the several Parts, as Neck, Arms, Wrists, Thighs, and Calves of the Legs, and *Emplastra* or *Cataplasmata Solearia*, to irritate the Fibres to continue on the Circulation without Interruption, and internally give all the Medicines requir'd by the Nature of the Fever to support the drooping Spirits. One Observable, in this Sort of *Delirium*, is, that just before they rave, and while it lasts, the Pulse is generally much eclipsed and deficient. I could mention several recover'd under these Circumstances, whose *Faces* and *Urine* dropp'd involuntarily, and whose *Extremities* have been almost cold, as I have hinted above. In all *Deliria* Care must be taken to know what becomes of the *Faces* and *Urine*: Heedlessness, at first, may cause them to neglect to urinate, which the Fullness of the Bladder may afterwards hinder; for that the Power of the *Detrusor Urinæ* being lessened, from the lateral Pressure increas'd, the *Sphincter* is less pressed upon, and so the *Facultas Retentrix* is stronger than the *Expultrix*, (to express it in the Language of the Antients.)

Convulsions are involuntary Motions of the Muscles: They, in their ordinary State, are subject (by a most wonderful Providence) to an *Imperium Animæ*; and they are not mov'd, but by a joint-Influx of the Blood from the Arteries, and Spirits into the Fibres. This is the Result of Experience: For tie the Crural Artery of a Cat at the *Inguen*, and by this the Influx of Blood will be impeded into the Leg, she immediately loses all Motion on that Leg, below the Ligature: Again, tie the Nerve of the contrary Thigh, and she then loses the Motion of that Leg. From which Experiments 'tis evident, that neither Blood nor Spirits alone, but a Concurrence of these Juices, (or some *Airy Elastick Corpuscles*, compos'd of these Juices,) will inflate and move the Muscles. Now, if equal Parcels of these Liquids are distri-

buted into *Antagonists*, and equally inflate the *Area* of the *Rhomboidal Vesiculæ*, then the Muscles act equally, and the Part is kept in a Tonick Posture; But if either Muscle has a greater Quantity pour'd into it, That is contracted, and the *Antagonist* is relaxed; and, *vice versâ*. 'Tis plain then, where-ever the Balance lies, there will the Motion be perform'd: But this being alternate in common Convulsions, the Muscles will be alternately (but always irregularly) mov'd, that is, convulsed. This may either depend upon a violent Motion of the Fluids, or one too languid; for in the former, the Fluids, as in the latter, are irregularly mov'd. In a State of Health, unless we command them, they are quiet, and the Fluids are only distributed to them in such a Quantity as may serve for Nutrition: But when that Mean is lost, by Depravations in their Qualities, or Changes in their Quantities, their regular and stated Motion is succeeded by another impelling Cause in the Tubes, of a different Stamp from that which is subject to the Will. This is true in particular as well as universal Convulsions.

Bellini ingeniously takes Notice, that where there is such a Paucity of Spirits as cannot equally inflate the Muscles at once, there may happen a *Momentary Palsy*, which bears the Resemblance of a Convulsion. But this is what happens in dying Persons in Fevers; for where one Muscle is so ill supplied with Spirits, as that their Course is often interrupted, for want of a sufficient Fulness of the Channels; then, where-ever that Defect lies, that Muscle flags, and loses its *Æquilibrium*; and the other, that has more, is contracted or convulsed. Hence these *Subsultus*, at the End of Fevers; and the Discovery of this Palsy, is from the Weakness of the Pulse, as well as the imperceptible Heat of the Patients at this Time; and then too, they seldom want *Comatous Deliria*, and other fatal Symptoms. But where the
Persons

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Persons are seized with Convulsions under a strong Pulse, and a vigorous Warmth, then we may conclude these involuntary Motions even from the too great Plenty of the Fluids irregularly mov'd. Hence, in short, it may be concluded on, that Bleeding and *Sal. prunell.* Opiates and the diluting Medicines are necessary in the latter Case; while Blisters, Volatiles, and the warm Cephalicks, are Remedies in the former.

I cannot sufficiently wonder at the Road of some Practitioners; who, whenever they prescribe to convulsed Patients, are sure to croud in all the strong *Hystericks*, without any Regard to Constitution, which ought always to be our *Cynosura* to steer by. I know a Lady, who is Cramp'd upon the Autumnal and Vernal Changes: She cannot bear the Heat of the Fire, without Danger of being drawn up; and who, upon the common *Anticonvulsives*, was thrown into the very Fits she was labouring to prevent: She is of a hot Constitution, a quick Wit, and her Pulse and Warmth are quick and strong: But the cooler Methods of a Milk-Diet, *Sal. prunel.* nay, even *Sp. Nitr. dulc.* allays them. I shall mention one Observation more, to confirm, that Convulsions are cured by a Regard had to the Temperament: I had a Patient, who was seized with that Species of Cramp, called *TRISMOS*: She had just so much Room left, as that she could be nourished with Liquids. However, her Mouth was so violently shut at sometimes, that she was forced to use a Wooden Wedge to keep it open. The Difficulty I labour'd under, was, how I should discover whether this could be called a Palsy of the *Digastrick Muscle*, or a Contraction of the *Crotaphites*. I found the Distinctions given in by *Riolanus*, and some others, misled me; and I applied a *Blister* to the *Nucha*; as soon as this began to have its Effect, I was made very sensible of my Mistake; for
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it threw her into Cramps in her Arms and Legs. Upon this, I fell to a different Method, and gave her what would not heat her, along with *Opiates*, at due Distances, and she grew daily better; and in six or seven Days she open'd her Mouth perfectly well. This, besides many other Arguments, convince me, that Convulsions are not to be taken off, without a due Regard to the Temperament. The best Distinction I made use of, to discover whether this was occasion'd by a Palsy of the *Digastrick*, or no, was thus: I perceived the *Digastrick* did move the Jaw a very little downwards, which a Paralytick Muscle could not have done.

Lethargi, Catalepses, Cari, Comata, Apoplexia, are profound Sleeps, and Degrees of them, which I shall not stay to name. Sense and Motion depend on a certain Distribution of Spirits into the Organs, without which 'tis impossible for them to act: So an Interruption of these Sensations and Motions depend upon a Stop put to these Distributions. Now, if the Blood gravitates on the Membranes, the Medullar Substance, and the Origine of the Nerves, 'tis evident that the Passage of the Spirits must be obstructed; that there must be a Privation of Sense and Motion, or both; since either are but a Consequence of some Degree of an interrupted Stream of this Fluid into the Parts. This Case may happen from either State of Blood: For how frequently does it occur, in the Beginning of Fevers, along with a strong Pulse, that a *Sopor* happens? Now this cannot, fall out without Accumulation, and, consequently, Oppression of the Parts affected. If the Pulse is small, some Particles of the Blood are prope'll'd till the arrival of others; and the slow Motion heaps too much, at least, more than can be re-conveyed in a seasonable Time; so that it gravitates, oppresses, and obstructs the Passages. And thus Spirits are not rightly distributed to the Parts, nor,
confe-

consequently, Motion or Sense; and the natural Sequel is one of the above-nam'd Symptoms, in proportion to the Cause. I don't at all question but this Oppression may often happen from an Obstruction somewhere in the *Infundibulum*, or its adjacent Gland, from any viscid Matter impacted; and then the Ventricles fill with Serum: And, in effect, I have since remark'd, that *Lower de Corde*, p. m. 71. takes notice of this very Case: But this Sort, I am apt to believe, oftner, if not only, occurs in Chronical Cases; as do Convulsions, from the Suppression of an usual Flux from the Nose, which I have seen so fierce, as to pervert the *Axis* of the Sight, convulse or contract the *Infundibulum*, hinder the Return of the *Lympha* from the Ventricles, and fill the Brain with Serum, and kill.

The Difficulty of the Cure depends on the Degree of Impaction, which is often irrecoverable; because the Vessels are sometimes broke, and Blood is extravas'd on the Membranes, or even into the *Cortical* and *Callous* Substance of the Brain: And as 'tis impossible to recall this, into the Circulation, Death is inevitable; but where the Fulness of the Vessels only occasion it, then Evacuations are to be made use of: And because too much Blood is heap'd up, therefore, in the former Case, large Quantities of Blood are to be drawn off, from the *Jugular*, (as an immediate Drain from the Part affected) upon a double Account; which is that of the violent Motion, which hurries in, too large Supplies, to the Quantity already lodg'd: And thus they answer the twofold Indication of discharging the Load, and allaying the Commotion; by which last, fresh Supplies are cut off. Here too 'tis usual and useful to apply Blisters; for tho' they are really contra-indicated, in regard of the violent Motion; yet where we are oblig'd to risque a small Damage, for a great and certain Advantage, Reason will instruct us to balance

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balance the Scale : For the strong *Oscillation* of the *Membranous Fibres*, by which the Fluids can be hurry'd forward, are more than a Balance for the Commotion they add to ; for, by them, the *Capillaries* are squeez'd, and their impacted Contents are driven forward, (from the Conquest of all the Resistances.) As to the rest, 'tis well known, that *Apoplecticks*, with a Plenitude, and in hot Cases, bear no Volatiles, but *Sp. Sulph. vitrioli.* and such cool Medicines.

Dr. Cole is very lavish in Bleeding in original Apoplexies ; but the Fever being *prior* to the Symptom, must cause us to be wary in the Quantity drawn off. In short, if the Stomach is laden with any *Saburra*, *Emeticks* are very proper, and *Catharticks* and *Cephalicks* are to be us'd ; and (if occasion require) *Sternutatories*. *Dekkers* orders very sharp Glysters, so far as to cause Blood to come away. *Bayle's* Caution about *Emeticks* and *Sennertus's*, about *Sternutatories*, are not without Grounds, which are these : Where there is a *Plenitude ad vasa*, the Succussions (whether by Externals or Internals) may hazard the Rupture of the tender Vessels of the Brain, which are of themselves too flexible ; and as the Substance of the Brain is soft, and yields to any, even the least Impulse, the Consequence of such an imprudent Procedure would be an irreparable Effusion and Death. Where these Disorders happen to the weaker People, to the sedater Fevers, with small languid Pulses, Blisters are the safest Remedies, along with volatile Medicines, to rouse them, and add Vigour, as Experience has convinc'd us ; for otherwise you take off the Disease and the Diseased together. 'Tis necessary to consider how Fevers, if Epidemical, terminate ; for if they terminate in such dangerous Symptoms, it will be necessary to prevent them, if you are call'd early enough. As to those Apoplexies occasion'd from
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the Ventricles fill'd with Serum, the Discourse appertains not to this Place; neither do I see any Method to evacuate this fatal Plenitude.

Watchings are the common Result of either State; and whether the Motion be too violent, or too slow, they generally are watchful: 'Tis indeed, in the former Case, more usual to hear them complain of a *Pervigilium*; and this also is commoner, where any Eruptions are about to ensue. Sleep seems to depend on a Quantity of Blood, not circulating freely: Our natural Actions require and presuppose a Stock of animal Spirits: And a State of Quiet, free from the Hurry of a Blood variously agitated by our Muscular Motion, is the fittest Opportunity to have them recruited. We cannot well doubt how such Quantities are stor'd up, if we take a view of the Structure of the Brain, and its Bulk, in proportion to the Nerves that run from it: For if the whole *System of Nerves*, and every Nerve were quoyl'd up, they would hardly amount to the Bulk of the *Thalami nervorum opticorum*; from whence it may be inferr'd, that these large Protuberances, at the Exit of the Nerves, must be so many Tubes, turgid with almost an Overcharge for the Fibrils of Nerves that are without the Brain; since each Thread of a Nerve is but Productions of the former, and not more numerous than they: And thus the Brain is a Fountain of Supplies. Hence the Stock bred in Sleep, is, in Proportion to our Exercise, expended and exhausted, in the Day-time, by every Action. Now, as the Expence is considerable, the Fibres must sink in their Dimensions; and containing less Fluids, will approach nearer to a Contact. Thus 'twill fall out, that our Body will naturally cease from Action, that the Entrance to the Particles of Blood will be slow, and this Liquid will be heap'd into the Brain, and the Change of Posture will easily retard the Circulation, till the

the Brain, again turgid, restores it, and then we awake. Thus 'tis likely that Watchings consist in a certain tenseness of the Fibres of the Brain; and as too rapid a Motion fills the Tubes and keeps us awake, so one too slow makes me believe the viscid Particles (which are the Vehicle of the Spirits) are too gross to enter the small Fibrils of the Nerves without the Brain, and it may be kept stretch'd with an Overload, whilst a *Penury* is evident without it: And thus Convulsions often happen from an unequal Distribution of Spirits to the Parts. And here, 'tis evident, some Nerves are often obstructed, whilst others are too plentifully supply'd, and all the while the Origin of Sensation is confus'd: For what is more common than, in *Deliriums*, to find *Subsultus Tendinum*, and involuntary Effusions of *Fæces* and *Urine*?

The Cure of Watchings, are, by correcting the Motions. For Bleeding (repeated as requir'd) in the Ardent sort, leads the Van; it ventilates and hinders the too plentiful afflux to the Brain. Diluents are here necessary too, from the nature of the Fever, and *Syr. Papav. Rhæad.* in Barley-water, or Emulsions, are requir'd. And we must proceed thus, till we gain our Point; for as Symptoms are Arguments of the erring Motions; so long as they last, we must persist in proper Methods adequate to the Ailments. Sleep is the best Concoctor of Humours: For *Sanctorius* tells us, *Dormientem plus perspirare vigilante*; he only means, if moderate; for he tells us, *Per nimium Somnum Interiora & Exteriora frigescunt*. If Watchfulness proceed from the opposite State of Motion, 'tis very conceivable, *Opiates* are dangerous: And indeed, I never find *Opiates* given in such a Case, but that, after the Administration, they grow more languid and faint, their Tongues grow drier, their Pulse weakens, *Gravative Head-aches*, and *Delirium's* supervene,
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along with *Subfultus* and *Coma's*, and all the Tokens of a failure of Spirits; and therefore here 'tis only safe to trust to the *Blisters*, the *volatile* and *testaceous* Medicines requir'd by this State of Fever.

Vomiting is an immediate Result of a convulsive Motion of the Coats of the Stomach, along with (if not only, as my ingenious Acquaintance Dr. *Purcell* says) a Convulsion of the Abdominal Muscles; some extraneous Matter spued from the Glands into the Cavity, galls its Walls, and invites a copious Influx of the Spirits, and convulses it to exonerate; for Evacuations are a constant Consequence of Irritations.

I have seen a *Cholera* proceed from Excoriations along the Canal of the Stomach and Intestines. This often happens to Children who have the *Aphtha*, and an Evacuation of green Choler. I saw this once happen to a Lady, in the Year 1699, who had labour'd under the *Flux-Pox*, and who after the *Desquamation*, fell into a *Hæctick*, she (before any thing was taken) fell a Vomiting and Purging, and voided vast Quantities of Scales, along with a brown Sanies; till, at last, the *Gula* and Parts about the *Pharynx* were so excoriated, that she refus'd to take any thing; expressing her choice of Death, rather than undergo the rack of swallowing.

Whether this Symptom be under the Ardent or Hæctick sort of Fever, somewhat must be superadded to these Medicines, to correct the sharp Particles extravas'd; as also such Medicines as will allay the Irritations, such as Opiates, &c. *Riverius's* Mixture is very good (*viz.* *Succ. Limon Cochl. j. Sal. Absinth. ʒj.*) or if Cordial-waters, both simple and compound, along with testaceous Medicines (and Opiates in violent Vomitings) be added, 'twill be more effectual. But it often happens to be a

Critical

Critical Effort, as Alleviation and the concocted Urine testify ; and then we may encourage it with gentle *Emeticks* of *Pulv. Rad. Hypocacuan. Sal. vitriol.* or such-like ; but even Chicken-Broth is sufficient, where there is a great Propensity to Vomit: And when you have done enough, then give the *Antemeticks* above-named. As to the vomiting from *Excoriations*, nothing conduces, save the smooth, *mucilaginous*, and *glutinous* Medicines ; as I have found in a Gentlewoman, who, from a strong *Emetick* given, threw up a *Schirrhus* piece of Flesh which had grown on the Stomach ; after which she could retain nothing so long as *mucilaginous*, *oily*, and *opiate* Medicines ; but neither them, in any Quantity. And so we see in common *Aphthæ* the *Gargarism. Alb.* cures them, they being from the eroding Particles of the *Saliva*.

Dysenteries, Diarrhæa's, accompany all sorts of Fevers. I have already said, that Evacuations presuppose an Irritation, and is therefore, by all, assign'd as the first Cause ; and 'tis probable, that some Particles, flowing from the Blood, are deposited in the Intestines ; and that, by this *Stimulus*, the Motion of the Blood is determin'd thither by the forcible Contraction of the Membranous *Villi* : from whence 'tis manifest that the *Tubuli*, and Channels of the Vessels are fill'd and stuffed with a Quantity of Blood. And the more flexible the Gutts are, and the more incapable they are of any strong Resistance, the easier they yield to the Momentum of the præterfluent Blood, and the more they are stretch'd ; from whence will follow an effusion of their Contents. The greater the Distraction is, the greater Quantity will be thrown off: A less Distraction will only give an *Exit* to the thinner Particles, but the greater to the Blood it self. But unless a general Plenitude give Rise to a Flux of Blood, it commonly happens from an
Inflammation

Inflammation of the Parts, and sometimes 'tis a Sequel of a Critical *Diarrhæa*. Effusions of Blood are of known Danger, since even *Diarrhæa's* are esteem'd of ill Consequence, especially if the Persons are weak, they be symptomatical and plentiful; or if they come upon any Eruptive Fever, so as to weaken. Drink *Docet. Alb.* in both Cases; give the *Testaceous Pouders*, and even *Opiates*, such, as *Theriac. Androm. Diascord. Fracastor. &c.* If Bleeding can be bore, by reason of the Strengths of the Patient, 'tis required in a *Dysentery*. A French Gentleman of the Society brought over from *Cayenne*, in the Year 1710, a Root of the Figure of *Bryony*; and so porous, that, in a Piece of eight Inches in length, a Candle might be blown out thro' it, which effectually takes off a *Dysentery* in two Doses; as I have had occasion to make Trials in the present Case, which produces no other Change, save immediately checking the Flux: A Specimen of which I made a Present of to the curious Collector of such Rarities, the Hon^d. Sir *Hans Sloane Bart. M. D.*

Colick, Iliack Passion. It does not always happen that these Pains depend on Inflammations of the Guts, (as *Screta* will have it;) for it does not constantly fall out that the Pain is fixt in one Spot, nor that the *Fæces*, in passing, create a Disturbance; on the contrary, it comes to pass that there is an Obstruction (partial or total) of the *Fæces*; and the Pain runs from one side to the other, as the Tract of the Gut lies, which shews that there is another Cause. In Fevers, the Heat of the Parts (depending on the Juices that pass through them) has an Effect upon the Juices, &c. that lodge in the Cavities: And consequently, whether there be any Phlegm sticking to the Coats, or *Fæces* in the Passage, this Heat can raise the one into *Bulla*; (for Water and Serum, we know, can

be rarefy'd into Air) part of which fills the Cavity; whilst the Bulk sticks to the Intestines, and inflates 'em; or the Humidity may be evaporated from off these Coats; and the *Fæces* may stick in their way, downwards; and in Proportion to the Driness of the Fibres and *Fæces*, produce an Obstruction; and as there is a Detrusive Motion, by a *Peristole*, more is heap'd up, the Parts are more distended, and the Pain becomes less tolerable.

So far as this Pain is Contra-indicated by the Remedies proper for the Fever, so much Danger it carries along with it; because we are often forc'd to have recourse to Evacuations, which retard a Regular *Crisis*; or Obtunding Medicines, which are as Dangerous as Evacuations.

If we find that the Pain is fix'd about the Navel, that they pass the *Fæces* with Pain at a certain Place, that the *Fæces* change their Figure, that Breathing affects the Place, and the Pulse be very vigorous, we may conclude 'tis an *Inflammation*. In this Case, you must Bleed as much as the Strength of the Patient will allow, and repeat it as Occasion requires. Throw in Emollient Glysters frequently, which serve as Fomentations: Give 'em Cooling Emulsions warm'd, and gentle Anodines. If it proceed from any other Cause, and that Glysters don't answer, as they never do, when the Continent Cause reaches higher than the beginning of the Colon; then recourse must be had to such Catharticks as, we judge, will have their desired Effect: And because, by this necessary Method, we endanger the Regular *Crisis*, by weak'ning the Patient; therefore we must fly to Opiates, to allay these Contractions, along with such Alexipharmacks as the Case requires: And if it yet mount higher, as it does in the Iliack Passion, *Opiates* ought to be mix'd (as the prudent *Riverius* advises) along with the *Purgatives*, and *Mercurius Dulcis* too.

Nausea ;

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Nausea; Anorexia. The first, I take to be a Diminutive Vomiting. The latter, indeed, depends on a certain Structure of the Stomach, as well as a certain and determinate Quantity of an *Esurine Juice*; for an *Atony* or a Defect of this Natural Juice (whose Nature is chang'd to an *Exotick* one, and ouzes into the *Sac*) destroys the Appetite. Whenever we find the Patient seiz'd with these Symptoms, (after the *Horrors*, which seize prior to all other Symptoms,) then a gentle *Emetick* is very convenient; or, if the Patient cannot bear one, a gentle *Lenient* may suffice: Sometimes it may be repeated, 'till the Symptom abate: And thus, too, the *Fomes* of the *Fever* is abated, and prepared for farther *Alexipharmacks*.

Thirst, or the Sense of want of Liquids, is generally in Proportion to the Driness of the adjacent Parts to the Mouth, unless they be *Delirious*. The too violent Circulation, hinders the Secretion of *Saliva*; or the too flow, makes it Viscid; and the Lungs contribute to it too, by the hot *Effluvia* thro' the Nose and Mouth. In the too violent Commotion of the Blood, *Acids*, with *Watry Medicines*, do best; so *Barley-Water*, with *Juice of Lemons*, *Sal Prunell*. *Claretum Cober*. Water and Toast, are here most proper. But where the Spirits are weak, these are so far from abating it, that they clog 'em more; and 'tis best done by *Thea*, *Sack-Whey*, and such as open the Glands.

Horrors, Rigors, are those Shiverings from whence we date a *Fever*, or such as come on at the *Crisis*: They are Convulsive, (shall I say, or Paralytick?) Affections of the Muscles, from the Irregular Influx of the Spirits into the Fibres; which are either oppress'd or detatch'd irregularly, and so are a Bar to the Circulation in the Extremities, or have some Acrimony in 'em that occasion this Irritation. If they continue long, you are oblig'd to give 'em

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Volatile Medicines, or Brandy-Spirits, or warm Wine. They are not always Attendants on the first Paroxysm; but in Malignant Cases, and before great and Critical Sweats, they frequently come on.

Pains, are troublesome Sensations, arising from some disproportionate Object inhering in the Part affected, or periodically thrown there: And as this may be either in the muscular or nervous Parts; so the Cause may affect either; but with very different Consequences; the one not having so exquisite a Sense as the other, will not produce so dangerous Sequels, nor require so potent Remedies. Now the Cause may be the same, that produces these Pains in different Parts, and may be but the Result of the different Variations of the Texture of the Fluids, or their Quantities, metaphorically increas'd: For as, in the first Case, the viscid Particles of the Blood are forc'd thro' the Capillary Vessels, with some Difficulty, in Proportion to the Sense of the Part; the Pain is, as the Distension of the Fibres beyond their usual Tone: So, in the latter, the Diameters of the Vessels being over-and-above enlarg'd, become an Impediment to the Circulation, and over-stretches the Parts, and occasions the same Disorder: But in Spasmodick Pains, the Case is very different; these being Cramps, or painful Contractions of the Muscles, from some irritating Cause: These are the divulsive, jerking Pains, that draw the Muscles into involuntary Motions, and commonly have *Subsultus* join'd with them. Sometimes Pains in Fevers are more Endemical than at other Times, from the Nature of the Air's Pressure (abstracting from any other of its Qualities:) For as it is observ'd, that a Bladder, half blown, swells, upon pumping; so also it is remark'd, that Animals swell, upon pumping too, in a *Ratio* to the Quantity drawn off; so do all Liquors follow the same

same Measures. Thus, in the warmer Weather, the Pressure of the Air being lessen'd, the Blood in our Vessels, in Proportion, rarefies and distends, and stops in the Capillaries; and, according to Mr. Boyle's Observations upon his own Hand in the Air-Pump, violent Pains arise. Whatever be the Original of these Pains, Opiates are always one Requisite to allay them. If the Pain be Inflammatory, Bleeding ought to be made use of, and repeated as often as it is necessary; and afterwards we must make use of Attemperants and Diluters of the fizy Parts. If the Pains are purely *Spasmodical*, and from disorderly Motions in the Spirits, Opiates (with Volatiles, if the Spirits want rearing) are the proper Remedies. If from any particular Acrimony lodging any-where in the Stomach, as in *Cardialgia*, then the Testaceous Pouders are convenient.

Verminous Fevers are of all Sorts; and over-and-above the Medicines and *Regimen* indicated by the Fevers themselves, you must add the anti-helminthic Medicines. There are no Symptoms they don't introduce; and whenever Symptoms even that are ἀνορα, or referrible to no Head, we ought to suspect These. The Nature of the Fever diversifies the Vermifuges; for that, in the warmer kind, *Coralline*, and such-like, are only proper; whereas, in the Hectical Sort, *Ens Veneris* is a noble Medicine. I was call'd to see a Boy of Four Years Old, who had fallen into a high Fever, with a *Delirium* immediately: I order'd him Bleeding, and cool Emulsions, which took off the violent Commotion and *Deliria*; and when the Child came to himself, he complain'd of a violent Pain in his Belly, an Itching of his Nose; and the Mother perceived the Startings, with gnashing of his Teeth, when asleep: I order'd some Vermifuge Medicines in an Electuary; upon which he voided a large Worm, and the

Fever ceas'd, and he recovered. Every little Symptom of Worms ought to be suspected, and provided against, since these Medicines are not contraindicated by the Fever. And thus I have immediately (tho' much contrary to my Expectations) cur'd several advanc'd in Years; and particularly a Gardiner above Fifty Years old, who complain'd of some Symptoms that seem'd to argue that he was troubled with Worms; and upon blending of Vermifuges along with the Medicines proper for his Fever, he voided such Quantities by the Mouth, that he had well-nigh been choak'd by them.

Puerperal Fevers are Shelves poor Females are often stav'd upon; They are generally Inflammatory, from the Inflammation of the *Uterus*, which arises from the Suppression of the *Lochia*. Custom has prevail'd, among the ignorant or obstinate Midwives, to allow the *Laborants* Chickens, and such Flesh-Diet, as they pretend cannot prejudice them; to rise out of Bed three Days after their Labour, and to take some Turns a-cross the Chamber; from whence I have seen the *Lochia* stopt or lessen'd, and thence *Deliria* or dangerous Fevers; and yet 'tis easy to prevent these, if the Ladies can be aw'd: 'Tis common for hard Labours to produce them, as I have often known. If we are called in immediately after the Mistake, it may be prevented, by giving Tincture of Castor, or Spirits of Hartshorn in Rue-water, &c. and giving them their Diet warm, and so disposing them to sweat. But when the Fever is begun, if they be Plethorick, and the Fever of the warmer Species, Bleed in the Arm, and then in the Foot; and after this throw in emollient Glysters to dilate (by manner of a *Fetus*) the Orifices of the Glands of the *Uterus*, whence the *Lochia* will flow afresh. Alexipharmacks (with the Cautions above-nam'd) must be given, and the Diet cooling or refreshing. If inflammatory Symptoms come

come on, such as Pleurifies, Angina's, Peripneumonies, &c. you will see below how to treat them.

If the *Lochia* are over, Bleeding and Purgatives (if indicated) may safely enough be made use of, as I have often experienc'd.

Inflammations (such are Pleurifies, Peripneumonies, &c.) arise from a viscid Blood stopping in the Capillaries, and distending the sensible Parts beyond their ordinary Bounds. Now 'tis conceivable enough how this happens; for if we consider the Structure of the fleshy and membranous Parts, we shall find that their original Contexture is *Reticular*; so that a Bar put to the Motion of any Moment of Blood, will swell and enlarge the Fibril that contains it, by the Quantity that follows. This Encroachment upon the neighbouring Fibres will also straiten their Channels; and thus hourly the Infringement encreases, and, in Proportion to the circulating Mass, the greater will be the Impaction; the larger the Distension, the more intense the Pain will be; till at length, by Art or Quantity, the Vessels are stretcht beyond a Possibility of containing more; and then they *imposthume*, and create *Abscesses*, by Breach of the Fibres into one common Receptacle.

In all such Disorders, plentiful Bleeding is absolutely necessary; for whether we consider that the Pain raises and keeps on foot a violent Fever, or whether that the Risque of Imposthumation is run for the want of it, 'tis upon both Heads indicated. In which 'tis far from being necessary then only to cease, when the fizy Blood appears no more; for thus we should act blindly; since this Blood sometimes appears not, from the very manner of Bleeding; for in a small Orifice, those Drops that fall into the Dish coagulate too soon to swim on the Cake, as this Size does as being lighter, and, consequently, loses the Power of mounting; but also the Pulse ought to guide us in Evacuation. Give 'em the

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come on, such as Pleurifies, Angina's, Peripneumonies, &c. you will see below how to treat them.

If the *Lochia* are over, Bleeding and Purgatives (if indicated) may safely enough be made use of, as I have often experienc'd.

Inflammations (such are Pleurifies, Peripneumonies, &c.) arise from a viscid Blood stopping in the Capillaries, and distending the sensible Parts beyond their ordinary Bounds. Now 'tis conceivable enough how this happens; for if we consider the Structure of the fleshy and membranous Parts, we shall find that their original Contexture is *Reticular*; so that a Bar put to the Motion of any Moment of Blood, will swell and enlarge the Fibril that contains it, by the Quantity that follows. This Encroachment upon the neighbouring Fibres will also straiten their Channels; and thus hourly the Infringement encreases, and, in Proportion to the circulating Mass, the greater will be the Impaction; the larger the Distension, the more intense the Pain will be; till at length, by Art or Quantity, the Vessels are stretcht beyond a Possibility of containing more; and then they *imposthume*, and create *Abscesses*, by Breach of the Fibres into one common Receptacle.

In all such Disorders, plentiful Bleeding is absolutely necessary; for whether we consider that the Pain raises and keeps on foot a violent Fever, or whether that the Risque of *Imposthumation* is run for the want of it, 'tis upon both Heads indicated. In which 'tis far from being necessary then only to cease, when the fizy Blood appears no more; for thus we should act blindly; since this Blood sometimes appears not, from the very manner of Bleeding; for in a small Orifice, those Drops that fall into the Dish coagulate too soon to swim on the Cake, as this Size does as being lighter, and, consequently, loses the Power of mounting; but also the Pulse ought to guide us in Evacuation. Give 'em the

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cooling Ptisans of *Barley-water*, *Liquorice*, *Raisins*, and *Figs*; give 'em *Sal Prunell.* in their Liquors; but avoid *Acids*, for fear of further Coagulations: give 'em *Linctus's* of *Ol. Amygd. d. Syr. Capillor. vener. & Sal Prunell.* Cordials of *Aq. Lactuc. Paralyf. & Syr. violar.* along with some gentle *Opiate* of *Syr. Papav. Rhæad.* and such-like: We may anoint with any emollient and discutient Ointments: Care must be taken of catching Cold, which I have found, even when Affairs went well, undo all. I have known some *Pleurisies* so quick as to spit Blood of a bilious Colour from the Moment they were seiz'd; but such carry great Hazard along with 'em, especially if they are of a full Habit, or have got it by a Debauch; and are what *Jodocus Lommius* calls *Erysipelas Pulmonum.*

To know whether a *Pleurisy* be an essential one, or the Symptom of a Fever, is very necessary to a Physician; the Want of which, has cost many Lives. I remember to have been call'd to a Young Man who was seiz'd with Symptoms of a Fever, (*Rigor, Head-ach, Nausea, Faintness, Heat, and Quickness of Pulse*;) he took, as the Custom prevails here, some *Theriac. Androm.* to raise a Sweat: It had the desir'd Effect, and he had a Remission of half a Day; but venturing abroad, in the Afternoon he was seiz'd with a Pain on his Side; which the Assistant taking for an *Essential Pleurisy*, Bled him plentifully; (he never spit Blood, as I could learn;) after which they gave him *Physick*, and then fell to *Pectorals.* I was desired by the Apothecary, his Master, to visit him: I found the Symptoms as I have described them; and found him with Blisters rais'd on his Hands, *anbelous*, with a *Pulsus myurus*, a dry and black Tongue, *comatous*, and with *Subsultus*; and, in fine, with all the Symptoms of a fatal Fever; and so he died in a Day after. The Discovery is thus: Any Disorder is Symptomatical, when

when it succeeds another preceding Disorder ; when the Symptom encreases or remits, as the Distemper that first seiz'd does ; and when the Symptom is periodical. As to the particular Case in Dispute, Sydenham tells us, *p. m. 223. In tali Casu Symptomata Febris Capitis Dolor, Artuumve precedunt ; Expirante Pleuritide durant.* And again, *Ballonius Epidem. fol. 208, says, In omni Febre Essentiali cum junctus est Dolor Lateris ; Febre aucta, Dolor augetur ; at in verâ Pleuritide ; augetur Febris, aucto Dolore.* The Reason of so careful a Distinction, is, because tho' the *Pleurisy* require many Bleedings, the Fever cannot allow of so much ; and besides, the *Fever* requires other Med'cines, than the *Pleurisy* does, when an Original one. What I've said, of distinguishing *Pleurisies* from *Pleuritick Fevers*, must be apply'd to *Original Rheumatisms* and *Rheumatick Fevers* ; where the profuse Bleedings indicated in the former, are inemendable Faults in the latter.

Symptomatical Sweats, are such, where the Diseased find themselves no Better, if not Worse. In all Sweats, the *Serum* is express'd and squeez'd out of the Pores ; but whether it be *Symptomatical*, 'tis best guess'd at, by the Effects and Crudity of Urine. Some of the putrid Particles being as yet blended with the *Serum*, may pass the Glands ; and thus it often happens, that when a Decisive or Critical Sweat comes on, there is less to be pass'd : And therefore, if *Symptomatical Sweats* are not immoderate, they are not immediately to be curb'd ; because they are preparatory to Critical ones. The Febrile Ferment seems to be lodg'd in the *Serum* only ; because either Sweat or Urine will carry off a Fever ; and Bleeding, only *per Accidens* ; this being mostly a dangerous, or an unfaithful *Crisis* at best. How too quick or slow a Motion may occasion 'em, I conjecture, may be thus. We are
sure,

sure, the Openness of the Pores must give the Outlet to the Watry Particles ; they must either be squeez'd out by the Weight of the Circumambient and Containing Fibres, which having lost their Tone, from the loss or want of Spirits, (which, we know) keep 'em Tense to a Connatural Degree, that their Walls may not approach to a Contact) do collapse and flag, and cause the Liquids to obey their Oscillations. Now, by how much the Weight of the Fibres is beyond the Resistance of the *Serum* they contain, such Disproportion is there in Efflux of Sweat ; so that in this Case, somewhat will be extruded ; but the *Syncope's* and *Coldness* of what is expell'd, and the Clamminess of it, argue a mighty Vappidity of the Liquids, and Decay of Spirits. This is the Case in such Fevers as commonly merit the Denomination of *Malignant* or *Pestilential* ; in which the *Indicia* of Vigour are wanting, and the Spirits are either fix'd or evaporated. But in such Fevers as approach to the *Ardent* kind, the Reason is very different ; for the vigorous Propulsion of the Blood, fills and distends its Channels, and, like rapid Torrents, o'erflows its Banks ; so that the thinner Parts will be thrust off more or less vigorously, as the Channels are more or less full ; yea, it often happens in this Case, that *Hæmorrhages* are a Sequel of this extraordinary Commotion and Distension. The Destruction of *Æquilibrium* in any degree, is dangerous ; and as these Sweats are *Index's* of Excess or Failure of Motion in our Fluids, they require the same Method as the Fever indicates, only that the Degree may be ascertained and encreased by them.

Eruptions, Spots, Bubo's, Carbuncles, &c. Many Instances from the most approv'd Gentlemen in the Faculty, as well as our own Experience, convince us, that they proceed from either Condition of
Effer-

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Effervescence. The *Serum* plac'd on the Fire, congeals, in a short time, into a *Crassamentum Album*; in which about One Third of its Weight is lost, to make it so. Now, Heat acts in us, as it does without us; and thus, we conclude, the Thinner Parts evaporate and leave a Viscidity in the Juices; and this Viscid Blood stops at the Capillaries, (whose Diameters want Room to receive 'em;) and the Liquors behind pressing on without free Passage, elevate the *Cutis* into Pustules. Now this Intumescence may either depend upon the Juices which become Viscid from Evaporation, or other heterogeneous Mixtures that coagulate the Blood; and consequently, either an *Ardent*, or a *Hellical* sort of Fever, may produce 'em. But if they once become considerable when form'd, they require particular Remedies: So *Bubo's* require Maturatives; nay, Causticks, or the Lancet, rather than they should retreat; and then Digestives, as common Ulcers: Only the Physician must be wary, not to Bleed when a *Bubo* appears, (unless the Motion overbear extravagantly;) nor must the Blood move so impetuously as to raise Sweats; but gentle *Alexipharmacks* must be given to support the Spirits. *Carbuncles*, are known by Blackish and Purple-colour'd Pustules, inflam'd at the Bottom; they are generally Mortal: The Actual Cautery around 'em; then Digestives, as in Ulcers, Cures 'em, (if possible.) *Parotids* are to be handled as *Bubo's*. I need not repeat here, what I have said of *Imperfect Crises*, and therefore shall supersede any farther Notice of them.

Hemorrhages may be occasion'd by the Breach of the Vessels, either from the Distension caus'd from the *Ardent* or *Hellical* sorts of Fever. I here say nothing of *Critical* ones, which must be suffer'd to run as long as Symptoms abate, without Diminution of Strength. The Heat of the Room, contributes

contributes much to them: For the compressive and restitutive Force of the Air being in a reciprocal Proportion, as much Weight as it loses by Heat of the Room, so much will the Globules expand and enlarge their Dimensions, and over-run its Limits. We must make use of all Astringent Remedies to close the Vessels, such are *Stryptic. Regis, Sacch. Saturn. Sang. Dracon. Acet. Stillatit. Corall. rub. Croc. Mart. astring. Conf. Rosar. rub. Syr. Myrtin.* along with *Aq. Plantag. Germ. Querc.* and such Things to mix with them. But externally, I find nothing for *Hæmorrhages* at the Nose, better than blowing up a little *Colcothar*: It pains them a little for a while, but does effectually; (first having made them blow out the Cakes.) *Rose Buds, Equisetum, Plantag.* and such Things in Decoctions, do well for *Fetus* to other Parts.

If any Fluxes happen in the Small-Pox, Measles, or Peltis after the Eruptions; such as a *Mittus Sanguineus, Lochia, Menses, Dysenteria, Hemoptoe, Diarrhæa, Cholera,* and *Lochia*; one or more together, as *Lochia* and *Dysenteria*, &c. We are oblig'd to curb the Flux, and mingle such Medicines as may comfort and support the Spirits; but these are desperate Cases.

If any Inflammation (such is an Angina, a Pleurisy, &c.) come upon a Puerperal Fever, when the *Lochia* are on; 'tis too a dangerous Case: However, the Inflammation being the more dangerous Symptom, must be cured by Bleeding, (not exceeding,) and yet not to neglect the Fever; but as *Vidius* has it, *Quis autem est iste cui Exploratum id semper esse possit: Quisve eum delectum teneat, ut ubi Cogitur, minus malum suscipiat Causâ majoris Evitandi.*

Ophthalmia, is a frequent Disorder after the Small-Pox. The Reason of Inflammations being given in above, I shall not here repeat it; but shall note, that besides, *Bleeding,* and *Catharticks* mix'd with
Mer-

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Mercurials, the common Topicks in *Collyrium's* often fail; as, I remember, happen'd to a Child, who had made use of all the common Remedies, and yet remain'd entirely blind on both Eyes; The Eyelids were Schirrhous. But after a *Suffitus* with *Cinnabar*, a *Cataplasm* with *Emollients* and *Discutients*, covered with *Cinnabar*, and some of it mix'd in a *Collyrium*, recover'd her, after she had been blind for above a Quarter of a Year, and thought past Recovery.

Dropsies frequently follow Fevers, from the Exhaustion of Spirits, and the small Liquors drunk in the time of the Fever. But a Dose or two of *M. P. Rud.* with *Merc. Dulc.* will evacuate the watry Particles from the Blood; and the Infusions of *Bitters* with *fix'd and volatile Salts*, will prevent its Regeneration, by invigorating the Mass. As to Local Faults, (such are *Phymoses*,) *Discutients*, after Evacuations, are necessary.

Diabetes. I have known this unlucky Symptom happen after the Measles; whether from any fusing Principle in the Blood, or any Laxity in the Kidney-Glands, or both, I shall not determine; only shall remark, as *Sydenham* does, that *Diarrhæa's* and *Diabetes* are cured by the same Methods, (*viz.* by *Rhabarbarates*, *Agglutinants Mucilaginous*, *Strypticks*, and *Opiates*,) I found the German Spaw-Water cure, (by correcting the Acrimonious Humours, and constringing the Glands,) after proper Evacuations. This is the *Febris Uretica*, when it happens with a Fever.

C H A P. VII.

Recapitulation.

HAVING thus run over some of the principal Cases that attend or follow Fevers; I shall take Leave of the Subject, first recapitulating what I have advanced.

I have endeavour'd to make it plain that Fevers are generally the mediate Product of some deprav'd State of Blood, put into a Hurry from some external Accident of the Air: That the Pores are very alterable in their Diameters, and can be changed into a Compass in Proportion to this Impulse of Air; and therefore can either pass a large Quantity of the *Perspirabile*, or can retain more of it than they should. In the latter Case, Fevers are a common Attendant, as *Sanctorius Aph. II. Sect. I.* makes it plain, saying, *Si ex Staticis deprehenditur impeditam esse Perspirationem, diebus sequentibus vel succedet plenior Perspiratio vel aliqua Evacuatio sensibilis vel Cachexiæ vestigium vel FEBRIS.* The Blood thus disturb'd, produces the Fever, and all Symptoms along with it, which are *Index's* of the particular State of Blood then reigning. But I could never observe two Persons in Fevers held in the same Manner, although *Epidemical Fevers* were then on Foot: For the Air may be so unwholesome as to affect abundance at the same Season, especially unwary or tender Persons; yet all these never are seized but with much Difference from each other; one having a very high and strong Pulse; another a very low one: One with *Inflammations*, another with *Pains*, a third with *Vomitings*, and a fourth and fifth with some different Symptoms: So that the Fevers, some Learned Persons have obtruded upon
us,

us, as the same in such and such Years, can signify no more than as a Direction to us, how such Fevers (if any such happen) should be manag'd. Indeed, if Persons under such a Habit only are seized, and with equal Strengths, we may expect the same Methods will serve: But having had Hundreds under my Care, I never yet found this hold true. However, I know no Fever, from a *Diary* to a *Pestis*, which not only admits of, but requires, proper Evacuations to unload the Vessels, or *Primæ viæ*, of part of the offending Matter, especially if there be a Tendency to a *Crisis*.

The Species of Evacuation is determinable from the State of Blood denoted by the Symptoms; but the Quantity, from the Strengths of the Patient. For it seldom happens that a real *Absumption* of Spirits is the Cause of the weak Pulse in the Beginning of a Fever, but rather a Fixation of them; and consequently Evacuations are always required. However, since the Blood or Humours offend in Quantity mostly, Evacuations are then proper; and especially, we must begin very early with them, in Malignant Cases, or *Post est occasio calva*.

1. *Where-ever the Heat is great, and the Pulse strong; or where the Heat is not considerable, so the Pulse appear oppressed, and the Strengths of the Patient have not been weaken'd by any preceding Accidents; Glysters, Bleeding, Cupping, Leeches, Diluents, Papaverines, and sometimes Acids, are necessary.* If inflammatory Disorders or violent Pains afflict your Patients (whether the Pulse be strong, or even if weak, so it be only eclips'd) Bleeding is necessary to clog the rapid Motion of the Blood; which, by pushing on so violently, dashes against the Vessels, and stops itself. Bleeding also is necessary in *Plethorick Persons*, to take off the burdensome Load. In *Hæmorrhages*, if the Blood-
Vessels

Vessels are overcharg'd, Bleeding often relieves suddenly : But I have seen the dismal Effects of it in Petechial Fevers, with a weak Pulse ; where the Lancet is often too ready for the piddling Reward.

Phrenzies require Bleeding, and can hardly be cur'd without it, because they are Inflammations ; but as they generally happen at the 'Ακμή of the Fever, Caution must be used : *Comatous* ones don't require so much drawn off, as the *Furious Species*. But how it comes to pass that Blisters are so indiscreetly made use of in *Phrenzies*, has always been to me somewhat surprizing. In such Cases then you must avoid all *Theriacal* Medicines. In the *Apparatus* of the Small-pox, such Medicines must be avoided as raise any Commotion ; and even the same Caution holds good in any *Stadium* of the Small-pox, supposing the Heat and Pulse contraindicate. In Youth, especially in Wine-Drinkers, when Fevers seize, Bleeding, and the same *Regimen* are generally requisite. *Coma's* and Symptomatical *Petechiæ* often oblige us to take the same Measures. The *Second Fever* of the Small-pox (which generally proceeds from an insufficient Extermination of the morbid Matter) is often so violent as to require Bleeding. Great Difficulties of Breathing (whether convulsive *Asthma's*, suffocating *Catarrhs*, *Peripneumonies*, or congenial to these,) necessarily require Bleeding, with a plentiful Hand : Nay, in *Ardent* Fevers, tho' the Pulse appears small, (if oppress'd,) it is to be ventur'd on.

2. Where the Heat is inconsiderable, the Pulse is weak (tho' quick :) The gentler *Alexipharmacks* are proper ; such as the *Testaceous* Pouders (*Crabs-Eyes*, *Pearl*, *Coral*, *Oyster-shell*, *Crabs Claws*, &c.) so that they are proper, where some critical Eruption has been impeded. In Fevers of Old Men ; in Mistakes from Evacuations, where too much is drawn

drawn off; where there is any Faintness of Sickness at Stomach, or any Pain at the Pit of it; or where the Matter (that, by the Efforts of a *Crisis*, has appear'd externally) retreats into the Mass again; in a Difficulty of Breathing, from such a State, (that is, with weak Pulse, and Coolness in the Habit;) in an *Epilepsy* in Eruptives; in a Salivation suppress'd.

3. Where the Heat is hardly, if at all, perceptible, and the Pulse is very small; where the Extremities are cold; in such a State, we must have recourse to the warmer Alexipharmacks, such as *Rad. Serpentar. virg. Volatile Spirits*, (of *Hartshorn*, *Salt Armoniack*,) and the spirituous Cordials; as also to Blisters and invigorating *Suppedanea*. And towards the *Ἀκμή*, Wine may be allowed. In Pestilential Cases, where the Pustules of the Small-pox, Bubbles, or Spots retreat into the Mass again, they are necessary. In Difficulties of Breathing, in such a State, (*viz.* weak Pulse, and imperceptible Heat,) they are indicated; as also in Epilepsies and a suppress'd Salivation, in such a Condition: Nay, Blisters are often required in the Beginning, where the Pulse is weak, or the Head loaden with a Quantity of serous Blood, so as to bring on *Coma's* with a slow Fever; or by way of Prevention of comatous *Deliria*, in epidemical, slow Fevers, that terminate thus; but very often at the State, to prevent *Coma's* or comatous *Deliria*.

4. Where there are any Remissions or Intermissions, the *Bark of Peru* is the most remarkable Remedy; but in any Eruptive Fevers, 'tis useless or dangerous before a total Eruption. As to other Febrifuges, 'tis remark'd that they are to be given before the Fits; and if they be of a volatile Nature, then they must be given only an Hour before the Fit;

if of a fix'd Species, you must give 'em two or three Hours before it; because they produce their Effects slowly.

5. *At the state of the Fever* (that is, after the Augment is over, and the Fervor abated;) what is critical must be promoted, so long as it continues to be so; for, *Quicquid in principio bonum extiterit, perseverantiâ fit vitiosum*, says Chesneau; and Sydenham, in other Words, copies him in saying, *Sudores utiles, dum urina cocta est, diutius quam cocta est, non sunt promovendi*. (However, you must understand the Words *diutius quam cocta est*, in such a Sense as I have explain'd above in the *Crises*.) A Salivation in any Fever, is always unexceptionably critical (without waiting for a concocted Urine, tho' it precedes) unless it be too long continued; it is promoted by Liquors given plentifully, and warm'd. Here then the warmer Alexipharmacks are indicated, and a gentle Promotion of what is critical by proper Specificks. So that Sudorificks are usually ventur'd on at the State of the Fever, when Nature inclines that way, and the Urine is well concocted: But in the Beginning of ordinary Fevers, especially the Inflammatory ones, they inflame more, and occasion Pleurifies, Head-achs, Coma's, Spots, bloody Urine, and whatever Symptoms depend on a Commotion of the Mass. 'Tis true, in a neighbouring Nation, in ordinary Fevers, they make freer with them, than we dare do; and the Pupils of such, in their Practices here, often commit horrid Blunders; not considering that they agree with their *serous* Bloods, but not with our *sizy*: Yet, in some Malignant or Pestilential Cases, I have seen them answer from the very Commencement of a Fever; but the Urine, at the first Seizure, was concocted, and they naturally dropt into 'em; and the Suppression of 'em brought on Symptoms of fatal Consequence

quence to some, which were plain Indications for them: Also in the *Pestis* itself, no other Method, without Scandal, is allowed to be followed; tho' Authors differ in the Manner and Continuance of them: But our Country-man Sydenham, in copying some Antients, acts most prudently in this Affair, in continuing them for Four and twenty Hours, without Interruption, or Change of the Sheets or Linen; for, *Tolli quod putridum, non alterari postulat*, is meant of such a State of Fever.

Hippocrates's Remark is, That *ὑγῆνες eodem die exturbandi*, *Aphor. 24. sect. 1.* and *Aphor. 10. sect. 4.* We must then enquire what this Turgescence implies; and we shall then be enabled to judge when to evacuate. In general, Humours are said *ὑγῆαν* (*turgere*) when they range in the Mass; and tho' they fix no-where, yet they create an uneasiness, and seem to invite us to expel them. If we add they *turgesce*, when they are in great Plenty; when they are *concocted*; and when they are *Pestilential*; we may, in all these Cases, conclude, that Evacuation is somewhere requir'd. Evacuations then must be made, when indicated; the Neglect of which, in due Season, is justly imputed to be the Fault of such who are first call'd.

6. After the State, that is, after there is a plain Abatement of the Symptoms, and the Urine separates; you may use proper Evacuations, whether Purgatives or Bleeding. Care must be taken, that what is critically expell'd, be not driven back again into the Mass. Now it is that critical Eruptions are to be encouraged. The Times in which *Crisis* are perform'd are very different in the several Species of Fevers; in which the Eruptive sort are, by much, the most active.

7. If a *Nausea*, or a Vomiting, or Loads at the Stomach be complained of, an *Emetick* is to be given; or if they are such Persons as cannot bear a Vomit, then a gentle *Lenient* supplies, which you may repeat at a little Distance, if requir'd by the Continuance of the Load: For thus the nestling Humours, lodg'd in these Passages (which make way for *Diarrhæa's*) are thrown off. *Harris, in morb. infant. p. 52* observes, That Dr. Boise of Canterbury took off Coma's in Worm-Fevers, by Mercurials.. I shall not say how much this might depend upon the *Saburra*, as the Fomes of this Fever, and consequently required Evacuations, proper to exterminate it, that kill the Worms. And besides, whoever takes away the Cause of any Disorder, which is not fix'd, necessarily takes away the Symptom. *Glysters* evacuate the *Fæces*, if too plentiful, as well as the *Saburra* of the Colon; and may (if Purgative) supply the Neglect of Lenients in weaker Constitutions.

Purgatives (by which I would, in Fevers, be understood to speak of Lenients) are necessary, where there is a Turgency in the Humours. In a *Saburra* of the Intestines; before a Fever; in an *Astriction alvi*; in a Comatous Phrenzy; after Signs of Concoction; and, according to *F. Piens, in Cognitione qualicunq;* even in the Beginning and Augment; in the weakest Persons, after Concoction, in malignant Cases; and after the 7th or 9th Day in Child-bed-women.

8. In the *Pestis*, Diaphoreticks are only to be considered in; and in Pestilential Cases, and even in Malignant Fevers, they are the only Relief. Whereas in the *Pestis*, Nature is oppress'd and sinking: They are indeed to be specified, so as that in the *Ardent Species*, fix'd Antimonials, and even Salso-

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Salfo-Acids are conducive; but in the *Hedical* sort, the more volatile ones are to be used.

9. Hence, in all Fevers whatever, the Heat and Pulse must neither exceed the natural, nor languish below that Standard; whether before the Crisis, in the Time of it, or after it is over. So that the Degrees of the Strengths of the Pulse, and the Warmth, indicate the various Alteratives; which, in great Heats and strong Pulses, require the Coolers; (in which some Caution is necessary, so as Acids are dangerous in Inflammatory Cases, because they coagulate :) But in the contrary State, the warmer Medicines.

10. Opiates are naturally required in all violent Evacuations; in any notable Commotion of the Spirits; in any violent Pains; in Epilepsies; in Phrenzies, where the Spirits, before any critical Eruption, are too rampant; in Anxieties in malignant Cases: But if it be possible, 'tis adviseable to forbear 'em before a Crisis.

11. *Revulsions* are made use of, to prevent some noble *Viscus* being seiz'd: when the Brain is in Danger, (as will appear by the Signs of its Plenitude;) or the Lungs are threatned, (our Breath being some way affected;) and so of the rest. As to the *Revulsions*, it is not the Business of this Paragraph to mention its Methods, nor the various Rectitudes observable in 'em.

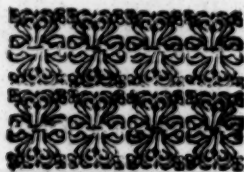
12. In every Fever, the Quantity offending is to be evacuated: And also that Evacuation is diversify'd by the Nature of the Humour offending. Hence the Particles offending in the *Puerperal* Fever are to be evacuated by Sweats, and the *Lochia*; as is the *Lacteal* Fever; as is the *Pleuritick* Fever in

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Puerperals; the *Febris alba*, by the *Semen* or *Menses*; so that if the *Head* is most affected, Hemorrhages terminate Fevers; if the *Uterus*, the *Menses* evacuate 'em safest; if the *Blood*, Sweats carry those best off.

13. In *Agonistical Crises*, we must neither promote nor curb Evacuations, but suffer 'em to go forward, according to Nature's Bent, which, whenever they become very troublesome, they are no further term'd *Crises*, but *Symptoms*, and are to be remedied by proper Methods.

14. Every Symptom is to be relieved by its proper *Indicata*, over-and-above what is remark'd in the above-nam'd Paragraphs of this Corollary: And as Fevers are so collective a Disorder, to offer at summing up all the Symptoms producible by it, and their Remedies, would be to compile a whole System of the Medical Art: So I shall sketch out only proper Remedies for some Symptoms commonly occurring in each Species, to illustrate the Method, and leave the Reader to consult, till a more proper Season.



C H A P.

C H A P. VIII.

A SYLLABUS of the
P R E S C R I P T I O N S.

TO render this little Treatise as useful as I can, I have here subjoin'd such Remedies as I have found proper in Fevers: And so many Variations, as that, at one View, most of what is useful, may be ready for Prescription; which I have done to illustrate what I have advanc'd: I have suppos'd the Patient at the Age of Five and Twenty, and leave them to be adapted to each Age, as the Prescriber shall judge proper.

I N A R D E N T F E V E R S.

Injiciatur Enema ex lacte saccharato; tum extrahatur sanguis quamprimum ad ℥x. e brachio; repetatur, si requiratur. R̄ Aq. Borag. Bugloss. a ℥iv. melliss. ℥ij. Lact. Alexit. ℥j. Cinnam. b. ℥iij. Sp. nitrid. q. s. ad acorem gratum, syr. violar. ℥j. m. f. Fulapium cardiacum rubrum, cujus capiat Coch. vj. in languoribus. Vel,

R̄ Aq. Portulac. ℥vj. Paralyf. ℥ij. Syr. Diamoron ℥β. Sal. Prunell. ℥j. m. f. Fulapium, sumendum pro lubitu.

R̄ Aq. frigid. Saxon. ℥x. Papav. Rhead. ℥iij. Syr. Limon. ℥β. m. f. Fulap. e quo capiat Coch. aliquot in languoribus.

Rx *Conf. Berag. Buglofs* ā. ʒj. *violar.* ʒjß. *Tartar. vitriolat.* ʒij. *Syr. Limon.* qs. m. f. *Electuarium* *cujus sumat Magnitudinem Castaneæ* ter de die superbibendo *cochl. aliquot Fulapij* *cujusvis.* Vel,

Rx *Conserv. Lujul.* ʒiiij. *Cynosbat.* ʒß. *Limon. tabulat.* ʒj. *Syr. e Rub. Idæo* qs. m. f. *Electuarium,* *sumat ut prius.* Vel,

Rx *Conditur. Berber.* ʒij. *Miv. Cydon, uvar. Corinthiac.* ā ʒj. *Syr. Dicmor.* qs. m. f. *Electuarium,* *Capiat. ut prius.*

Rx *Tinctur. Rosar.* ℥ij. *bibat ex eâ ad libitum.*

Rx *Decoct. Coccin.* ℥ij. *sit pro potu communi.*

Rx *Amygd. d. excortic. no. x. 4. sem. frigid. maj.* ā ʒj. *Contus. In mortario eis sensim affund. Aq. Hord.* ℥ij. *Colatur. add. sal. prunell.* ʒß. *Sacch. perlat.* qs. m. f. *Emulsio pro Lubitu bibenda.*

Bibant Cerevisiam tenuem; serum Canarinum tenuissimum; Claretum Coberi; vel Serum e Pomis; Tea ex Limon.; Hydrogala.

Diata sit Fuscum avenaceum, Gelatinæ, Panatella, Flos Lactis orizatus, Limonatus vel Imperialis; Poma rosta; &c.

Under this Head Symptoms are to be treated differently. So

L A S S I T U D E.

Under this Head, it is called *Lassitudo Pblegmodes.*

Extrahatur Sanguis ad ʒxij. e Brachio, & reiteratur pro re natâ; In alijs procedatur ut supra.

A V E R T I G O.

A VERTIGO.

Extrahatur Sanguis e Brachio ad ℥xij.; repetatur, si opus sit. Quoad Cetera, procedatur ut supra, quia Symptoma est, tantummodo, lato sensu.

HEAD-ACH.

R̄ Ol. Rosar. Acet. ejusd. ā qs. Sacch. Saturn. ℥j. m. f. Epithema fronti admovendum.

R̄ Sem. papav. alb. ℥β. Flor. Rosar. (a Destillatione resid.) mj. acet. Sambuc. (cum vitello uno ovi agitat.) qs. m. super Ignem in Epithema fronti admovendum & saepius renovandum.

Prius præmissis venæ Sectione, Cholagogo miti, vel Enemate pro Exigentiâ, &c. ut in Genere.

DELIRIA (PHRENZIES.)

Extrahatur Sanguis e Brachio & pedibus pro virium ratione (prius Enema ex Lacte Saccharato injiciatur;) dein R̄ Columb. per medium sect. soleis admoveantur; vel R̄ Emp. de Mucilagin. qs. opij, ol. Lilior. malaxat. ℥β. m. f. Emplastr. solearia.

Bibant Copiose Sal prunell. in Aq. Hordei vel Prisanâ; tandem R̄ Aq. Papav. Rhead. ℥ij. Lactuc. Paralyf. ā ℥iv. sal. Nitri purif. ℥j. Laud. opiat. gr. iij. syr. papav. Rhead. ℥β. m. Capiat cochleatim.

Foveantur Hypochondria Decocto Althææ in Lacte; loco Columbar. dissectar. Soleis admoveatur Theriac. Androm.

CONVULSIONS.

In order to lay the hurry of the Spirits, and recruit them, as being harass'd.

Vena

Vena Secetur, ad ℥x. extrahatur Sanguis ; Cucurbitulæ variis partibus admoveantur.

Enemata ex Decoſt. Emollient. injiciantur cum oleo Succini ;

Rx Aq. Rut. Puleg. à ℥ij. Lactis alex. ℥iv. Pæon. C. ℥j. Bez. min. gr. xv. Laud. liq. ℥ß. Syr. de mecon. ℥ß. Sal. vol. oleos. gut. vj. m. f. Fulapium Cochleatim ſumendum.

COMA'S, LETHARGIES.

Extrahatur (ſi repetatur in aliis venis) Sanguinis Quantitas ad ℥x. e Jugulari ; Cucurbitulæ ad Scapulas applicentur.

Rx Aq. Rut. ℥iv. Sp. vitriol. gut. x. m. f. Houſtus ſæpius repetatur. Etmuller. p. 427.

Acetum naribus admoveatur, in Comate febrili, Etmullerus p. 428.

Abſtineant a Lecto per horas aliquot Diei.

WATCHINGS.

Extractione Sanguinis præmiſſâ ad ℥x. vel xx ; Enematis dietim injectis (ex Decoſto communi ; Pedes Decoſto (e fol. Hyoſcyam. ſem. papav. alb. in Lacte vaccino) laventur.

Emulſiones copioſè bibant cum ſemine papav. alb. ſaſas.

Epithema fronti admoveatur ex vitell. ovor. no. ij. ol. Roſar ℥ß. acet. Roſar. ℥ij. placent. Roſac. qſ. f. Frontale.

VOMITING.

VOMITING.

Premiffâ sectione venæ ad ʒx. Eluatur ventriculus Aquâ Pulli vel Hordei; Saburrâ eliminatâ, R succ. Limon. ʒß. Sal. absinth. ʒj. m. Capiat sæpius; vel R Aq. menth. ʒij. Succ. Cydon. ʒj. Sp. vitriol. gut. vj. syr. de mecon. ʒß. m. Capiat cochleatim. Bibat sæpius Tea e Succo Limonum fact.

ISCHURY.

Est Febris Καυσώδης quoddam Symptoma inquit Ballonius Annot. i. in C. 37. L. 2. Et Diuretica non probat; quoad Emetica quæ laudat, non probo, at V. sang. sustuli.--Derivandum--potius per alvum.

DIARRHŒA, DYSENTERY.

Tundatur vena ad ʒx. Et si opus sit, iterum celebretur. Bibant Tinctur. Rosar. vel Decoct. album. Rheo ad ʒj in Aq. Cichor. ʒiv. infus. Et Syr. 2 Ros. solutio. Edulcorat. Saburra elutrietur; Et pro re natâ Potio reiteretur.

R Pulv. G. Arab. ʒjß. oc. Cancror. ʒß. Laud. Lond. gr. iv. Syr. de mecon. qs. m. f. Bol. no. ij. Capt. j horâ quâque 6tâ. Seu,

R Rad. Cayennens. ʒj. Divid. in Chart. no. ij. pro vicibus ij. Capt. in Aq. Cinnam. b. ʒij. ad Distantiam 6 horarum. Non fallit.

COLICKS, ILIACK PASSION.

Premiffâ Sectione venæ; Injiciatur Enema (ex flor. Sambuc. Chamomill. melilot.) cum Latte paratum. dein

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dein R^x Fol. Senn. alex. ʒijß. Sal. Tartar. gr. vj. Infundantur in aq. font. Colatur. ʒiv. add. Mann. Calabrin. ʒß. Syr. e Ros. Solutiv. ʒj. Crem. Tartar. ʒij. m. f. Potio tepidè haurienda; operatione peractâ, R^x Aq. Menth. flor. Chamom. â. ʒij. Syr. de mecon. ʒvj. Sal prunell. ʒj. m. f. Haustus, ad dolorem pacandum.

NAUSEA, ANOREXIA.

Premissis venæ Sectione, & Emetico leni ex Pulv. rad. Hypocacuan. ʒß. in Aq. Cardui; dein R^x Conf. rosar. vitriolat. q. s. Capt. parum subinde In nauseâ.

R^x Sp. vitriol. d. ʒij. Capt. gut. vj. in Liquore aliquo.

R^x Sp. Sal. armon. acid. ʒj. Capt. gut. x. In Aq. Hord.

THIRST.

Vino Lymphato assatim sumpto; Claretto Coberi, &c. ut prius.

DYSPNŒA.

V. Sang. Sp. Sulphur. gut. x. In quocunque vehiculo aqueo.

PAINS (RHEUMATICK.)

V. Sang. (repetitâ modo pulsus fortis, Ardor & Dolores urgeant.) ad ʒiij vel Cucurbitulis; Enematis Emollientibus (ex Decocto Communi, ex Lacte Saccharato, &c.) Emulsionibus uti prius, Epithematibus (si requirantur) ex Pane cum Lacte Costo & Croco, seu ex Lenticulâ palustri Flor. Chamom. Lacte & farina Hordei simul coctis,

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coctis & admotis seu Aq. Plantag. Rosar. Aceto Rosar. &c. Diluantur Salia Aqueis, (Hordeaceis, avenaceis, &c.) Tandem a Statu, Diaphoretica ut Turgentes Humores expellantur. Abstineant a Lecto per aliquot diei horas uti Sydenham (a Nic. Pisone L. 3. C. 3. de Anginâ) consulit.

WORM-FEVERS.

Premissis venæ Sectione & Enemate. R^x Corallin. pulv. ʒβ. Conf. Lujul. ʒj. Sp. Vitriol. gut. iv. m. f. Bolus Capiat; tum hora unâ vel duabus elapsis da Infusum Sennæ ʒiij. cum Syr. e Flor. Persicor. ʒiβ. M. admoveatur Emp. vermifug. Batean. Regioni ventriculi.

PUERPERAL FEVERS.

V. Secetur in Brachio, tum in Talo; tum R^x Aq. ulmar. Puleg. ā ʒiv. Aq. Hirund. cum Castor. ʒij. Gelatin. C. C. acid. ʒβ. Acet. Theriacal ʒiij. m. f. Diaphoreticum. Etmullerus.

INFLAMMATIONS, (Pleurifies, Peripneumonies, &c.)

Venæ Sectione repetitâ; tum Emulsionibus suprâ memoratis; Sale prunella ad ʒβ. in singulis Haustibus; Cave tamē ab acidis, ne Coagulum inde augeatur, & sanguinis Circuitui in Arteriis Evanescentibus obex ponatur; Diæta sit tenuissima. Hinc in Colo Inflammato, Extrahatur sanguis ad ʒxij. e. Brachio; & reiteretur, si ab Inflammatione indicetur; Item Hirudines Ano admoveantur; Item injiciatur Enema (ex Brodio vervec. ℥j. vitellor. no. ij. Sacch. Crystal. ʒj. m.) Potus sit Decoct. Hord. cum Syr. Dialth. R^x Flor. Chamom. Sambuc. Melilot. ā. p. iij. Farin. Lupin. ʒij. Caricar. ping. no.

no. vj. Incis. & Contus. Coq. In Lacte ad Consistentiam Cataplasmatidis, admoveatur.

Unde in omni Inflammatione, priusquam radices egerit, seca venam sæpius, refrigera sanguinem, Revellere; discuti & emolli. Etiam in Puerperis, Venæ Sectio celebretur, parca tamen manu.

SYMPTOMATICAL SWEATS.

V. S. præmissa, & pro sudorum modulo; R. Aq. Portulac. ℥iv. Lactuc. ℥iij. Sal. prunell. ℥j. Syr. Limon. ℥β. Tinct. antiphthisic. Garmann gut. xij. m.; Ad alium Lecti Locum se moveant; A Lecto eximantur; Stragula amoveantur aliqua; Fenestræ aperiantur; Sudor non abstergendus est.

HÆMORRHAGES.

V. S. præmissa, & repetita pro Exigentiâ; Bibant Tincturam Rosarum. R. Alumin. crud. ℥j. G. Lacc. pictorum ℥iβ. m. f. pulvis insufflandus; seu Strypticum Tasburgense.

FLUXES (of any Sort.)

Sectio Venæ, vel Cucurbitula præmittantur. Ratione Febris Speciei, refrigerantia sæpius memorata exhibeantur. Et demum Ratione Meatus aperti, Cohibentia propria administrentur; & pro Medici Lubitu commisceantur.

In the HECTICAL SPECIES.

Præmissa Catharfi, ex Fol. Senn. cum Syrup. Rosaceo solvente & Cremore Tartari; Vel Emetico; Vel alio quovis Evacuatorio Indicato.

R. Be-

R $\acute{e}$ Bezoar. min. $\mathfrak{D}$ j. detur. *sapius in jufculo.*

R $\acute{e}$ Bezoard. min. $\mathfrak{D}$ ij. Camphor. gr. xij. cum. Aq. Card. bened.

R $\acute{e}$ Bezoard. min. $\mathfrak{D}$ j. Sal. prunell. $\mathfrak{z}$ β . Camphor. gr. vj. m.

R $\acute{e}$ Marg. ppt. $\mathfrak{z}$ j. oc. Cancror. $\mathfrak{z}$ β . Sacch. Cryftall. ad pondus utriufq; m. f. pulv. divid. in Chartul. no. iv. Capiat. j. horâ quâq; 3tiâ, 4tâ, 5tâ. In Julapii cujuſvis Cochl. vj.

R $\acute{e}$ Pulv. e Chel. C. $\mathfrak{z}$ j. Sacch. alb. $\mathfrak{z}$ β . m. f. Pulvis dividendus in Chart. no. ij.

R $\acute{e}$ Pulv. e Chel. C. $\mathfrak{z}$ j. Theriac. androm. $\mathfrak{z}$ ij. Conf. Alcherm. incomplet. $\mathfrak{D}$ j. Syr. e Cort. aurant. q. f. m. f. Bol. no. ij.

R $\acute{e}$ Camphor. gr. iv. Pulv. e Conf. de Hyacynth. $\mathfrak{D}$ j. Diaſcord. Fracaſtor. S. melle $\mathfrak{z}$ β . Syr. Caryoph. q. f. m. f. Bol. R $\acute{e}$ Pulv. Serp. Virg. $\mathfrak{D}$ j. Ther. And. $\mathfrak{z}$ j. m. f. Bol.

R $\acute{e}$ Sal. vol. C. C. gr. vj. Conf. flor. Anth. $\mathfrak{z}$ β . Conf. Alcherm. f. m. $\mathfrak{D}$ j. Syr. Croc. q. f. m. f. Bol.

R $\acute{e}$ Pul. Goan. Lap. Contrayerv. $\tilde{a}$ $\mathfrak{D}$ j. Theriac. And. $\mathfrak{D}$ j. Syr. Caryoph. m. f. Bol.

R $\acute{e}$ Aq. La $\acute{c}$ t. Alex $\mathfrak{z}$ iv. Meliff. $\mathfrak{z}$ iij. Menth $\mathfrak{z}$ j. Epidem $\mathfrak{z}$ j. Marg. ppt. $\mathfrak{z}$ j. Sacch. alb. q. f. m. f. Julap. e quo Capiat. Cochl. vj. in Languoribus (Phialâ prius agitât.)

R $\acute{e}$ Aq.

Rx Aq. Scord. ꝑ iij. Naph. ꝑ ij. Cinnam. b. ꝑ iß. Mirab. ꝑ ß. Marg. ppt. ꝑ ij. Sacch. Crystall. q. s. m. f. Fulap.

Rx Aq. flor. Tiliæ ꝑ iv. Protheriacal. ꝑ j. Ceras. n. ꝑ iß. Epidem. ꝑ j. Sacch. alb. q. s. m.

Rx Aq. Borrag. ꝑ j. Bugloss. ꝑ ij. Epid. ꝑ ß. Sp. C. C. ꝑ j. Syr. Caryoph. ꝑ iij. m. f. Haustus.

Rx Sp. Fuligin. ꝑ ij. In vehiculo detur.

Rx Pulv. Cantharid. (demptis alis & pedibus.) ꝑ j. Ferment. acerrim. ꝑ j. m. f. Emp. Vesicatorium largum pro Nuchâ. Vel,

Admoveantur Emp. vesicator. Nuchæ, & Carpis vel etiam Brachiis Internis vel Suris, &c.

Admoveantur Cataplasma Solear. Batean. Soleis.

Si animus tibi sit ulcuscula a Vesicatorio excitata aperta servare; admoveatur Emp. Vesicatorium perpetuum, quod sic communiter faciendum curavi. Infunde Cantharid. pulv. ꝑ j. (In petiâ ligat.) In Aq. Bullient. ꝑ x. tum Injiciatur Basilic. ad ꝑ ij. Mitte omnia super Ignem Lentiſſimum, ut omnis Aqua sensim Evaporetur; Sicq; Sal. Cantharidum Unguentum virtute suâ Imprægnabit, quod debilius vel fortius (additione vel subtractione unguenti) fieri potest; Pro usu servetur; hoc enim, Emp. Meliloto superinductum, serum in Quantitate sat largâ exprimet, nec fraus facile detegitur. In filiâ meâ Dysuriam sat moleſtam excitabat.

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A L A S S I T U D E: *In this Case 'tis Lassitudo
Ulcerosa.*

*Præmissâ Catharsi ex sennæ foliis; fac ut se dispo-
nant ad Madorem, Infuso e Foliis Tea (Bohe)
Saccharato.*

A V E R T I G O.

*Primis viis purgatis; Capiant Misturam (ex Sp.
Lavend. ʒβ. Tinct. Castor. ʒj. Sal. vol. oleos ʒij.
in vehiculo appropriato.) ad gut. x.*

H E A D - A C H.

*Proritetur Alvus Aquâ Salitâ; Applicetur vesicato-
rium Nuchæ. R̄ Sp. C. C. ʒj. Aq. Hysteric. ʒiij.
m. f. Epithema. Vel Sp. Rnæ. Hung. R̄ Pulv. de
Gutt. ʒj. cum Infuso Thea.*

D E L I R I A.

*Quia in Statu vel paulo ante eum Evenire solent De-
liria, ideo præsupponuntur Evacuationes debite
præmissas fore: Nil ergo agendum restat, nisi ut
admoveantur Emplastra vesicatoria pauciora vel
plura pro Spirituum vacillationis & ~~vix~~ ^{vix} ~~modulo~~ ^{modulo}: Porro Emplastra vel Cataplasmata Solea-
ria, (ex Emplast. Cephalic. cum Euphorb. & ol.
Mac. Vel Sem. Sinap. pulv. Porro Contus; seu
Allio cum Oxymel. Scillit. seu Halece salito) vel
similia admovenda sunt. Et*

*R̄ Cinnab. Antim. ʒj. Bezoard. Miner. ʒβ. Camph.
gr. iv. Laud. opiat. g. ij. Syr. Croc. q. s. m. f. Bol.
no. ij. Capiat. j. horâ quaq; 7ma, vel sæpius si re-
quiratur, vel profut. Vel,*

O

R̄ Aq.

℞ *Aq. Paralyf.* ℥iij. *Epilept. Lang.* ℥β. *Sp. C. C.*
gut. xx. Laud. liq. gut. xxx. Syr. de Mecon. ℥iv.
m. pro duabus Dosisibus.

℞ *Pulv. Rad. serpent. Virg.* ℥β. (*Dij.*) *Sacch. Saturn.*
gr. x. Theriac. Androm. ℥iβ. *Syr. de Mecon.* q. f.
m. f. Bol. no. ij. Capiat. i. horâ quaq; 5ta, 6ta, &c.
Superbibendo Cochl. iij. Fulap. seq.

℞ *Aq. Meliss. Flor. Tiliæ ã.* ℥iv. *Hysteric.* ℥ij. *Sp.*
C. C. ℥β. Syr. Papav. Rhæad. ℥j. *m. f. Fulap.*

CONVULSIONS.

*Premissis Catharsi, Enematibus, vel Emeticis: Admo-
 veantur Emp. vesicatorium unum vel plura: hic
 tamen monendi sunt Medici ut non nimium Eva-
 cuent: at Analeptica, Cephalica, & opiate sunt
 Ista, super quæ Cardio Medelæ vertit. Hinc,*

℞ *Cinnab. Antim. gr. vj. Sal. vol. C. C. gr. j. Cran.*
human. pulv. ℥β. Laud. opiat. g. j. Syr. Caryoph.
q. f. m. f. Bolus, quâq; horâ 4ta, 5ta, vel 6ta, re-
petendus cum Cochl. vj. Fulap. seq.

℞ *Aq. Flor. Tiliæ ℥iv. Puleg. Rut. Ceras. n. ã. ℥iij.*
Tinct. Castor. ℥j. (in petiâ ligat. Et suspens.) gr. vj.
Sacch. alb. q. f. m. f. Fulap.

℞ *Theriac. Androm. (cum ol. Succin. malaxat.) q. f.*
m. f. Cataplasmata Solearia.

Si Subfultus Tendinum agros divexent, sumantur
gr. iij. vel iijj. Ent. Vener. in Cons. Flor. Anib.
in vehiculo specifico sæpius in die.

COMA'S,

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COMAS, LETHARGIES, &c.

Admoveantur Emplast. Vesicator. Nuchæ & Brachiis internis

Rx Piper. Euphorb. Calam. aromat. Pyreth. ā ʒj. Cera ʒj. ol. Succin. q. s. m. f. Linimentum pro Cervice ungendâ.

Bibant Copiosè Tea ex Satureiâ factum.

Lotiones pedum fiant cum Decocto vel potius Infuso ex Herb. & Rad. aromaticis (viz. Angelic. Calam. arom. majoran. Lavend. &c.)

Suffiantur Nares Sulphuris fumo, seu Sp. Sal. Armon. cum Calce fact. Capt. gut. x. vel xv. Sp. C. C. in vehiculo appropriato.

Siq; Symptomata hæc sint periodica, misceatur Cortex peruv. cum Tea, ex fol. Bohea.

WATCHINGS.

Hic Obiter moneo, ne medici Vigiliis Criticis seu ab Inquietudine Criticâ suscitatis auxilium præbere prætexant.

Si Spiritus Erigere Conemur, Vigiliæ abigemus, quæ hoc in Casu planè vacillantes vires arguunt: & uti Senum Vigiliæ Ambratis & Cardiacis tolluntur, ita ubi adsit Spirituum Debilitas & Paucitas, & inde vigiliæ, iisdem plane Remediis, eos supplere debemus, quibus sic restitutis, Symptomata exinde generata necessario truncantur. Sit igitur Diata Analeptica ex Pullis, In Gelatinam coctis, ex Fulapio vitæ & Similibus, & Diatâ pauxillum vinosâ.

COLICKS, ILIACK PASSION.

Elutrientur Humores Sennâ in Aquis Cordialibus Infusâ (modo necessariò Catharticum requiratur;) quod manifestant Plenitudo quâdam in Hypochondriis & Tensio a Flatibus; dein Rob. e. Bacc. Junip. & Laur. cum Antimon. Diaphoret. cum & Laudano remperficiënt; Item quandoq; sumant Sp. Junip. ʒj. Aq. Mentb. ʒij. vitell. ovi. no. j. Sacch. q. s. m. f. Haustus Carminativus, seu Eleo-Sacchara Cinnamonomi, Carvi & Similia. Si sedes ipsius sit in partibus Inferioribus, Enemata cum successu injiciuntur, uti sæpius expertus sum.

THIRST.

Hoc in Statu quam optimè potu ex Thea, Salviâ in Aquâ Infusâ, sero Canarino, Decocto Santali cum Cort. aurantiorum Saccharato; Os mucagine albâ obductum Eluatur Acrimoniam Temperantibus, & Abstergentibus, (viz.)

HORRORS, RIGORS.

Si graves & periculumminentur, vino Calid. auferantur; & Horrorem in Puerperâ per horâ Dimidium & quod excurrit durantem, Sp. C. C. ad ʒj. & amplius, partitis vicibus non solum sustuli, at porro sudores copiosos per horas sex fluentes placidè, & Symptomata Levantes excitavi, & Febrem ex toto abegi. Leves si sint, sunt Malignitatis Indices, nil tamen Remedii postulant, præterquam quæ Febris Specie exiguntur.

A DYSPNÆA.

Epispasticis, Alexipharmacis generosioribus ut in Genere.

VER-

VERMINOUS FEVERS.

Rx Pulv. Ent. vener. ʒß. Conf. Absinth. rom. ʒij. Syr. e Chicor. cum Rheo. q. s. m. f. Bol. No. iv. capiat i. horâ quâq; octavâ cum Cochl. vj. Vini Hermetici, (viz. Vini, in quo Mercurius vivus infunditur.)

Rx Æthiop. Mineral. ʒj. Sacch. alb. ʒij. m. f. Pulv. divid. in Chart. No. iij. capiat j. quâq; horâ octavâ in Cochl. iij. Vin. rubri.

Rx Præcipitat. Vener. gr. v. Etmullet. p. 626.

Rx Pulv. Aurei. ʒß.

Et Lucas Tozzi Medic. Practic. Part. 2. ait, Omnis Timor abest, si des vermibus inimica, quia Eneâs vermibus, desinit Febris, &c.

Fel Bubulum cum Aloë admoveatur in formâ unguenti umbilico, super vesicam extendatur.

PUERPERAL FEVERS.

Etmullerus sic præscribit: Rx Antimon. Diaphor. Cinab. Antim. ā ʒj. Sal. vol. Sang. human. ʒß. Sal. Volat. Succin. gr. vj. Myrrh. gr. iv. m. f. Pulv. No. ij. Capiat in aq. ulmarie cum Syrupi paxillo.

Rx Aq. Puleg. Rut. a. ʒiijß. Epilept. Lang. ʒj. Castor. (in nodulo suspens.) ʒß. Tinct. Croc. ʒß. Sacch. Crystall. alb. q. s. m. f. Fulap. ad libitum pitissandum. Etiam omnia, Febris speciei, remedia contrarientur, uti suprâ sat copiose indigitavimus.

SYMPTOMATICAL SWEATS.

Quaecunq; Spiritus labascentes exhilarant, eosq; vacillantes resarciunt, sudores istos reprimunt, & Crisin promovent : Quia sudores hi ex symptomaticis, proficui & utiles evadunt ; unde consule præscripta præmemorata.

HÆMORRHAGES.

Hoc in statu quoties vidimus homunculos miserrimè eis adus missos præpostero Lancetta usu? 'Evavll-wois serio consideranda, nam si sanguinem cardiacorum generosiorum usu nimium evehamus, ejusq; compagem solutam nimis reddamus, vehementius erumpet ; si incrassantia & styptica exhibeantur, magis dietim massa coagulabitur, & inepta fiet spiritus generare, particulasq; noxias e sinu suo expellere : Remedia ergo commiscenda sunt.

Rx Pulv. e Chel. Canc. C. ʒj. Vitriol. mart. ad albedin. Calcinat. gr. vj. Marg. ppt. ʒj. G. Arab. Pulv. ʒß. Theriac. Androm. ʒjß. Syr. Myrtin. q. s. m. Bol. N^o. iv. Capt. j. horâ quaq; quartâ superbibendo Cochl. aliquot Fulap. seq.

Rx Aq. Plantag. Rut. a ʒiij. Cinnam. b. ʒj Epidem. ʒß. Acet. destillat. ʒj. Syr. Caryoph. ʒß. Diascord. Fracastor. ʒj. m. f. Fulap.

Turundæ ex cretâ naso intrudantur, vel Pulv. Colcothar. in Nares (si ferre queant) insufflatur.

FLUXES.

FLUXES.

Febris Alexipharmaca & Cardiaca postulat ; & Fluxus Styptica, Glutinantia ob meatum apertum requirunt ; unde simul permista, effectus suos sortientur.

Talia sunt Testacea, Margaritæ, oc. Cancror. Sal. Absinth. Sp. C.C. Terra sigillata, Terra Lemnia, Sang. Dracon. Vitriolum Martis, Croc. Mart. Astring. & similia.

INFLAMMATIONS.

Etmullerus, in Pleuritide a Lochiis suppressis hæc habet :

Rx Aq. Puleg. Papav. Rhæd. a ʒj. Antim. Diaphoret. ʒj. Sal. vol. armon. gut. vj Sal. volat. Succin. gr. iij. Castor. gr. ij. Syr. Card. b. ʒß. m.

Aperientia ergo mitia exhibeantur, ut coagulum præoccupetur, saltem ut genita obstructio amoveatur ; & motus intestinus sedetur Anodynis, Tenuibus ; externè Discutientibus & Emollientibus, Circulatio Humorum, sanguini rursus concilietur.

ANOMALIA, seu Retrocessio Pustularum, Bubonum, &c.

Rx Antim. Diaphor. ʒß. Camph. gr. vj. Cinnab. antim. ʒß. Syr. Croc. q. s. m. f. Bolus quæq; horâ quartâ reiterandus cum Fulapio Perlato ad Coch. aliquot. Vesicatoria admoveantur.

INTERMITTENT OR REMITTENT FEVERS.

Premissis Evacuationibus propriis (à Specie Febris indicatis.)

Rx Cort. Peruv. opt. subtiliter pulv. ʒj. Syr. Limon. q. s. m. f. Electuarium molle, cujus capiat quantitatem castaneæ quâq; horâ 3tiâ vel 4tâ, in Remissionibus, ad Febris Evanescentiam.

Rx Sal. Absinth. ʒj. Sp. Vitriol. ʒj. Aq. Absinth. C. ʒij. Ceras. n. ʒj. Menth. ʒß. Syr. Caryoph. q. s. m. f. Mistura pro duabus vicibus ante Paroxysmum exhibenda. Crollius.

Novi Intermittentes Pulv. Flor. Chamomill. ad ʒß. ter de die fugatas.

Novi item Febrës Intermittentes, quasi carmine magico emplastro Cinnabarino, Ventriculo admoto, sublatas.

Species Febris in Paroxysmo consideranda, & remediis prænominatis sublevanda est.

PESTIS, FEBRIS PESTILENTIALIS.

Hac in Re Authoribus fides adhibenda est; & siquidem uno consensu Diaphoresi consulant. Hisce solis aggredienda est.

Quidam Emetica, alii V. Sectionem, alii glandes, quandoq; Cathartica mitia præmittunt; tum Diaphoretica exhibent. N. Hodges dat Sp. C.C. ʒij. (ʒj.) ex Aq. Epidemic.; & sudoribus promanantibus Cerevisiam vult salvatam affatim dari; & hoc in
omni

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omni sudore critico notari velim, ut copiose bibant quamprimum sudores prorumpunt.

Sydenham, *præmissâ venæ Sectione*, R^x Theriac. Androm. ʒß. Eleët. de ovo ʒj. Pulv. e Chel. Cancror. C. gr. xij. Coccinel. gr. viij. cum Succ. Kermes.

R^x Aq. Card. b. Scordii Comp. ā ʒiij. Aq. Theriacal. stillat. ʒij. Syr. Caryoph. ʒj. m. f. Fulap. Capiat Bolum 6tâ quâq; horâ superbibendo Fulap. hujus Cochl. vj.

Etmullerus, R^x Antim. Diaphoret. Flor. Sulph. ā ʒß. Sal. viperar. ʒj. Camph. gr. xv. Sacch. alb. ʒj. m. divid. in Chart. No. iij.

Barbette, R^x Extraët. Prophylact. ʒiß. Oc. Canc. ʒj. Aq. Prophylact. ʒß. Syr. Limon. ʒj. Acet. Sambucin. ʒß. m. f. Haustus.

Isb. Diemerbroeck, R^x Aq. Theriacal. ʒiij. Succ. Citri ʒß. Sal. Card. b. ʒß. m. f. Haustus. Vel, R^x Acet. ʒij. (iij.) Sal. Commun. ʒj. m. f. Haustus.

Authores ergo Alexipharmaca pro Febris modulo, mihi diversificare & specificare videntur.

BUBO.

Quamprimum apparet, Chirurgi munus est attrahere, maturare, & aperire; tum detergere, incarnare, & cicatrizare; oleosis, vesicantibusq; Diachylo, Lancettâ, Ægyptiaco, Tereb. in Vitell. ov. solut.; Basilico, & Unguento Diapompholigos. Interim Alexipharmaca, ne retroeat, exhibe.

CAR-

CARBUNCLE.

Uratur; Crusta separetur; ulcus curetur; Caustico potentiali circumillito (Butyro Antimonii;) Butyro recente, oleo lini, Ægyptiaco, Basilico, Diapompholigos unguentis. Alexipharmaca specifica toto tempore danda sunt internè.

As for Symptoms that come on after the Fever is quite vanish'd, it would be an endless Task to undertake to remedy them, and must refer my Reader to his Leisure to consult.

CHAP.

C H A P. IX.

The DIAGNOSTICKS of
F E V E R S.

IT may be ascribed to me as a Fault, that I have no where spoke of the Diagnosticks of Fevers: I own I have not taken any further notice of them, than to demonstrate that Fevers only are discriminated by their Degrees, and also to shew the two Remarks necessary to illustrate the Methods taken in them: And am therefore willing to sketch out the Signs more at large, for the Satisfaction of such Readers as may stand in need of them.

F E V E R S in General,

Are known by a Quick and Frequent Pulse, Heat, Thirst, and Inquietude: A Horror or Rigor begins it; there is joined a Want of Appetite, a Lassitude, a Discolour'd Tongue, (White, call'd *Cancer albus*, Black, Brown, &c.) The Pulse has above a Hundred Strokes in one first Minute.

An ACUTE FEVER,

Is known by a great Heat and Thirst, a strong, equal, and frequent Pulse. It ends soon.

A S L O W F E V E R.

The Symptoms are mild: The Heat gentle, or scarce perceptible: It ends slowly.

A Fever between an acute and slow one, is term'd a mixt or middle Fever.

An EPHEMERA.

Some evident Cause has preceded: The Urine is like that of Persons in Health (with Contents, viz. and Citrin:) No Rigors precede it: It lasts 24 Hours. But it sometimes lasts many Days without any Remissions. We may guess it to be an *Ephemer* if the Patients were not sickly before, and it begins by some External Injury.

A S Y N O C H U S I M P U T R I S.

It has a quick Pulse and Heat, and the Urine is red, and has a copious Sediment: It lasts 7 Days without Remission. *Sydenham's Febris variolosa* 1667, which he says was rather an Inflammation of the Blood than any Humour to be expell'd, could be no other than this Imputrid *Synochus*.

A P U T R I D S Y N O C H U S,

Has all the same Symptoms as an Imputrid one has, only one is more violent. It acquires various Names, according to the various Symptoms; 'tis call'd an *Affodes*, when a Pain of the Stomach accompanies, and a Tension of the *Hypocondres*; *Elodes*, when symptomatical Sweats infest us; *Epiala*, where the Persons complaining of Cold are
Hot;

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Hot; *Syncoalis*, when the Decumbents are troubled with Faintness; *Rheumatica*, *Pleuritica*, *Anginosa*, *Erysipelatosa*, *Dysenterica*, &c. where 'tis accompany'd by these Symptoms. It has Remissions.

A S Y N O C H O S, or Continual Fever,

Is a Malignant Fever: And though both Ardent Fevers and Hectical ones be Malignant, yet the latter is most commonly term'd so. The Heat, Pulse, Thirst, and all the Symptoms continue without Remissions, till it terminate by a *Crisis*. The main Complaint is, a great Dejection and Prostration of Strength, a weak Pulse, and an unequal one; dangerous Symptoms of the Nerves soon after seizure, cold Sweats, dry Tongues, Black Thrushes, Watchings, Deliria, pale Water or undigested; and many more bad Symptoms.

A P E S T I L E N T I A L - F E V E R,

Is a Fever with Spots (whether Morbillose or Petechial) with a *Pulsus Myurus*, *formicans*, and *imperceptible Heat*. They often die, though the the Urine appear concocted (though in many there is the *νεκρωσὶς* *Hypostasis* and in others the *σφοδράταλαργυμένον* according to *Willichius*, and I have observ'd them.)

The P E S T I S.

Besides the Urine mentioned in the Pestilential Fever, there is small Heat, a formicant and intermitting Pulse, not frequent; great Syncope's and Languors, Buboes, Carbuncles, black Spots, great Mortality, and very sudden Death.

The

**The HUNGARIAN FEVER, (or, The CAMP-
FEVER.**

A Fever with violent Head-achs and Cardialgia's,
a Languor, Nauseousness, Hiccups, and Pain.

The HERPETICAL FEVER.

From a Fever join'd with a *Herpes miliaris*.

**The MILIARY FEVER. The RASH. COMPOUND
MILIARY FEVER.**

The *Simple Miliary Fever* is known by a Fever,
and watry Blisters breaking out about the Eleventh
Day after the Seizure. This is the *CrySTALLI* of the
Ancients.

The *Rash* or *Rubeola*, are a Fever with Cough
and some short Breathings, and then red Tubercles
breaking out.

The *Compound Miliary Fever*, is when a Fever
siezés, with vesicated Eruptions, join'd with the
Rubeola, Small-pox, Measles, or *Petechia*.

Sir D. Hamilton adds to his *Traët*, that it is ob-
servable these Fevers are discoverable by a Languor,
an Oppression at the Breast, and Sighings; which
indeed are Symptoms common to all Eruptive Fe-
vers, and observ'd by all Authors. But this Gen-
tleman having own'd, in his Preface, that he had
not remember'd that *Ermuller* ever wrote of such a
Fever; though it be no Argument of his great
Reading, 'tis a pregnant one of an honest *Sympli-*
city.

The SCORBUTICK FEVER,

Is a Fever of what sort soever, accompany'd with *Scorbutick* Eruptions.

The CRAPULAR FEVER.

This Fever is often accompany'd with Lurid Eruptions appearing the 7th or 9th Day.

PARTICULAR FEVERS.

Ballonius L. de Virgin. & Mulier. Morb. C. 7. calls some Fevers *Cephalick, Hepatick, Stomachick, Lienose*; and we often see *Pleuritick, Anginose*, and such Fevers seizing on a Part. These sort of Fevers are never Intermitting, but Continual, says *Forestus*, if they be Symptomatical only.

*A FEVER on the SPIRITS, (SYNCO-
PAL FEVERS, CORDIACA PAS-
SIO.)*

They are only Malignant Fevers join'd with a Despondency.

The LACTEAL FEVER.

A Fever coming on the Third Day after Labour, from the Milk in the Blood: There is a Horror goes before it, if it turn into a *Synochus putrida*: The Breasts swell: They are pain'd in their Backs and are Restless.

The P U E R P E R A L F E V E R.

The common Symptoms of a Fever forerun: They have Pains in the *Abdomen*, *Hypogastria* and *Loins*. I suspect it to be Inflammatory mostly. 'Tis from the *Lochia* suppress'd.

A C O L L I Q U A T I V E F E V E R,

Is a Fever attended with Sweats, *Diarrhæa's*, or some sort of Evacuations.

The W O R M - F E V E R,

Is a Fever rais'd by the *Seminium* of the Worms in the Intestines, and is judg'd to be one by Verminous Symptoms with a Fever.

The D I E T E T I C K F E V E R,

Is only a Fever occasion'd by playing the Gourmand.

A C A T A R R H A L F E V E R.

From catching Cold, and a Cough with a Fever coming on after it; small Shiverings, with Heat and Cold succeeding each other; a Heaviness of the Head as in wet Weather, red Eyes, a Noise in the Ears, a Stoppage of the Nose, Hoarseness, and all other Symptoms of a Cold. It may be called a *Feverish Catarrh* or a *Lymphatick Fever*.

Pustules break out, red, and rough, and very small; and daily grow bigger till the 4th and 5th Day, by rising higher, and growing broader, and inflaming. The 6th Day they begin to ripen. The 9th Day they scab and fall off gradually.

The COHÆRENT KIND.

They run together in two or three Places in the Face. They appear the 3d Day: And fall off the 11th or 14th Day. They Salivate.

The FLUX KIND.

Their Numbers are so great, that they rise very little in the Face. The 8th Day they ripen, and are first White, then Yellowish, and lastly Black: The Fever is continual, through all the Stages of them. They fall off the 17th or 20th. The 3d Day they appear: The 11th, the Salivation lessens till the 13th, when it stops, and the Face falls.

The MEASLES and SCARLET FEVERS.

They differ as the Distinct and Flux-Pox.

Over and above the common Signs of Fevers, they breath short, have an Oppression of the Hypochondres, and Cough, and Sneeze. On the 4th Day, or 5th, a Redness seizes the Scarff-skin, which is of no certain Figure. The 6th Day they grow rough. The 8th they scale, and then vanish.

In the SCARLET.

They appear later: The Skin is as if it were dyed with Claret; they Scale in great Fleaks; and the Fever is often Continual.

INTERMITTING FEVERS,

Is when every Day, or other Day, or every fourth Day, there is an *Ἀπορῆξια*. But *Chesneau* having mark'd 'em after a peculiar Manner, I shall take the same Liberty with all of them; which will spare me some Words:

<i>A Quotidian</i> iiij.		<i>A Quintan</i> iiiiij.
<i>A Tertian</i> iiij.		<i>A Sextan</i> iiiiij.
<i>A Quartan</i> iiiiij.		<i>A Novan</i> iiiiij.

A Double Tertian $\frac{\text{iiij.}}{\text{iiij.}}$ then | *A Doub. Quintan* iiiiij.

A Semitertian is compounded of a *Quotidian Continual* and an *Intermitting Tertian*: So that one Day they have Vomiting, &c. The next Day, (or your *Well-day*, as it is commonly term'd,) they only have the simple Fever.

A Bastard Tertian is only a Protraction of the Fits.

I'm afraid I have by this Time sufficiently tir'd my Reader, and shall only add, That having rang'd the Prognosticks of all Diseases into such a particular Order, that they can't easily be dismember'd; I must crave the Reader's Patience till my Leisure allows me to publish that Piece.

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